

1989

# Effects of Communicative Reading Strategies on the Literacy Behaviors of Third-Grade Poor Readers.

Sue Neames Hernandez

*Louisiana State University and Agricultural & Mechanical College*

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**Effects of Communicative Reading Strategies on the literacy  
behaviors of third-grade poor readers**

**Hernandez, Sue Neames, Ph.D.**

**The Louisiana State University and Agricultural and Mechanical Col., 1989**

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Effects of Communicative Reading Strategies on the  
Literacy Behaviors of Third Grade Poor Readers

A Dissertation

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy

in

The Department of Curriculum and Instruction

by

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August 1989

## ACKNOWLEDGMENTS

I am deeply indebted to Dr. Lea McGee, my major professor and advisor, whose expertise and guidance were an integral part of this project. She gave me enough free rein to make the project my own, yet was able to apply restraint when I ventured away from realistic goals. Her uncanny ability to perceive exactly where and how my written exposition could be improved was invaluable.

Dr. Jan Norris, my minor professor, provided assistance above and beyond the call of duty from the inception of this study. First, she is solely responsible for teaching me about the existence of and the educational needs of language disordered children. Second, she was always willing to give of her time and her knowledge when I became totally frustrated with myself and this study, never once losing faith in my ability to carry it to its final stages. And third, her sense of humor and her true friendship during this stressful time in my life will never be forgotten. It will be difficult to reciprocate her many kindnesses.

To Dr. Richard Lomax, a man who not only knows statistics and experimental design, but more importantly, knows how to teach them, thank you for always making me feel confident about my ability with "that quantitative stuff". An extra special thanks goes to Richard for not

allowing me to use the expression "almost approaching significance" when results did not reach my expectations.

To Dr. Rosalind Charlesworth, with your wealth of knowledge in the field of early childhood education, thanks for your valuable observations, your smiling face, and your supportive attitude throughout this project. Though you have many of your own irons in the fire, your door was always open for me when I needed advice.

To Dr. John Readence, your expertise and extensive knowledge not only regarding reading research and how it should be conducted and interpreted, but also regarding the appropriate format of presentation was a valuable asset to my study. Thanks for your input and your honesty.

My special thanks go to the staff of Greenbrier Elementary School for tolerating my many interruptions: Principal, Dr. Henry N. Denham; secretary, Ann Steagall; and especially the third grade teachers who allowed me to remove children from their classrooms all day every day for eight weeks, Sherry Angelety, Barbara Komorech, and Diana Maillet. Their cooperation made this study possible.

The materials used for instructional intervention were graciously provided by Syble Sartain and Tom Gross. Thank you both for this valuable contribution.

Without the help of my friends in the doctoral program at Louisiana State University, I would have been unable to develop instruments or establish interscorer reliability. A special thanks goes to Nancy Cothorn, Nancy Weems, Nancy



Williams, Elizabeth Willis, Jane West, Ellen Jampole, Mimi Mitchell, and Leslie Arceneaux for their expert opinion on the development of the inferencing task, and more gratitude to Elizabeth Willis and Jane West for the many hours spent scoring tests to establish interscorer reliability.

Finally, I would like to thank those closest to me. My best friend, Elizabeth Willis, stood by me with encouragement and unwavering support not only during the planning, data collection, and writing of the dissertation, but throughout my three years in the doctoral program. She always had time to listen and she knew how to make me laugh when I wanted to cry.

Without the help of my mother, Lucille Neames, who served as a surrogate mother for my children during the final weeks of the project, and who managed the household while I wrote, I could not have reached my goal. But more importantly, her unconditional belief in my ability throughout my life provided the impetus for continuing what I had begun.

My husband, Frank, and my sons, Kelly and Jeremy have played second fiddle to my doctoral work for three years. They have fended for themselves with few complaints and much encouragement. Because most of my work was accomplished at home, this doctoral degree would not have been possible without their total cooperation. It is to these three guys that I dedicate this dissertation.

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## ABSTRACT

The purpose of this study was to examine the effects of Communicative Reading Strategies, an integrated approach to remedial reading instruction, on the reading, writing, and oral language proficiency of poor readers. Twenty eight third graders with poor reading and language abilities were randomly assigned to experimental and control groups.

Communicative Reading Strategies (CRS) were employed with the experimental group. CRS treats reading as an integrated language process. Techniques were used such as: 1) providing orienting information, 2) clarifying the author's intention, 3) reducing the linguistic complexity of the text, 4) reiterating and conjoining ideas into complex propositions, and 5) revising the message until the child understands both the content and the intent of the author's communication. The facilitator (researcher) served as a liason between the reader and the text. The control group received traditional basal reader instruction.

Both groups received 30 minutes of instruction each day for four weeks (20 days). Pre- and posstesting was conducted using five measures (Basic Reading Inventory, a retelling task, an inferencing task, the Norris Story Telling Task, and the Test of Written Language-2) and eight dependent variables (comprehension, word recognition, instructional reading level, retelling ability, inferencing

ability, story telling ability, overall spontaneous writing ability, and thematic maturity in spontaneous writing).

A 2 (time, pretest and posttest) X 2 (group, experimental and control) MANOVA was conducted to determine if there was an interaction effect between time and group. Time was a repeated measure. Follow-up univariate analyses and post hoc analyses were used to examine further effects on each dependent variable.

MANOVA results revealed a significant overall main effect for time. Univariate analyses results showed significantly more improvement for the experimental group than for the control group from pre- to posttest on reading comprehension. Although the trends favored the experimental group on all other measures, there was not significantly more improvement from pre- to posttest. Results suggested that CRS may be more effective than traditional basal reader instruction for poor readers with below average language ability on reading comprehension.

## CHAPTER 1

### INTRODUCTION

Many children experience difficulty and frustration in learning to read and write, even though they are considered normal in all other aspects of development. There have been many theoretical explanations for reading and writing disabilities in otherwise normal children. Considerable empirical evidence exists in support of these theories. It appears that learning to read and write is a complex process that involves many aspects of development, and that no single causal explanation can satisfactorily account for reading failure.

#### Social, Neurological, and Linguistic Components

Learning to read is recognized as a complex process that involves social and environmental, neurological, and linguistic components. Success in learning to read is highly correlated with social and environmental factors such as socioeconomic level, early experience with print, and an environment in which parents interact with children in a way that is conducive to literacy (Baghban, 1984; Clay, 1979; Doake, 1981; Holdaway, 1979; Snow & Garfield, 1982; Wells, 1981). Reading success is also dependent upon the neurological integrity of the child's system (Mosse, 1982), and a level of linguistic proficiency sufficient for both

understanding the language contained within the print and the language used for instruction (e.g., following directions, segmenting words and so forth) (Fry, 1967; Liberman & Shankweiler, 1979; Schulte, 1967; Vellutino, Harding, & Tanzman, 1980). Thus, reading is a process that involves an interaction between social and environmental, neurological, and linguistic components.

Models of reading failure have examined the social and environmental, neurological, and linguistic deficits of children who exhibit reading disability in an effort to explicate the relative contributions of each of these factors. Reading failure has been attributed to deficits in each of these areas.

#### Social and Environmental Factors

Children from lower-class homes perform less well on measures of reading competence than do children from economically advantaged backgrounds (Abelson, Zigler, & Deblasi, 1974; Stein, 1971; Weber, 1973). Moreover, a positive relationship between socioeconomic status and reading ability has been documented by studies of reading skills in countries other than the United States (Thorndike, 1973; Venezky, 1970). However, it is obvious that low income, in and of itself, does not cause reading failure. It has been suggested that low income must be a correlate of factors which do have a causative relationship to reading (Seitz, 1977).

One of these factors associated with low income and

correlated with reading difficulties is the lack of rich literacy experiences (e.g., parent-child interactive storybook reading) in the preschool years. Yet, even a lack of a rich literacy environment does not seem to ensure literacy failure. Although there is a large body of research to support the notion that numerous rich early literacy experiences seem to enhance subsequent reading and writing ability (Baghban, 1984; Clay, 1979; Doake, 1981; Holdaway, 1979; Snow & Goldfield, 1982; Wells, 1981), the results of at least one study suggest that early exposure to literacy activities does not ensure later success (Heath, 1983). Further, lack of exposure to early literacy experiences does not predict subsequent failure (Clark, 1976; Durkin, 1966; Teale, Anderson, Cole, & Stokes, 1981; Torrey, 1969). The findings of these studies confirm that social and environmental factors are related to reading ability, but alone can not account for the large numbers of children who experience failure.

#### Neurological Factors

Neurological factors such as perceptual deficits (Bender, 1957; Hermann, 1959; Hinshelwood, 1900; Morgan, 1896; Orton, 1925, 1937), cross-modal transfer difficulties (Birch, 1962; Birch & Belmont, 1964; Birch & Lefford, 1963), serial memory deficits (Bakker [cited in Bakker & Satz, 1970]; Bakker, 1972; Corkin, 1974), attentional disorders (Bryan, 1974; Keogh & Margolis, 1976; Ross, 1976; Rutter,

Tizard, & Whitmore, 1970), short-term memory deficits (Bakker, 1972; Corkin, 1974; Cummings & Faw, 1976; Jorm, 1979; Rugel, 1974), deficiencies in association learning (Brewer, 1967; Fildes, 1921; Gascon & Goodglass, 1970) and deficiencies in rule learning (Manis, 1981; Morrison & Manis, 1982) have been posited as causes of reading disability. In fact, disabled readers have consistently performed below normal readers, with few exceptions, on tasks designed to measure these neurological capabilities.

Recently, however, Vellutino (1982, 1987) and Vellutino and Scanlon (1986) have asserted that the inadequate performance of disabled readers on perceptual, memory, serial, attentional, and other neurological tasks may be the consequence of a reading disorder, rather than the cause. They suggest that the underlying cause of reading disability is linguistic deficiency.

#### Linguistic Factors

The notion that reading ability and language ability are intimately related is not a new one (Goodman, 1976; Smith, 1971). For the last two decades, numerous investigations have shown that reading ability and performance on language related tasks are highly correlated. Many studies suggest that poor readers (compared to good readers) are deficient in verbal expression (Lyle, 1970; Rabinovitch, 1968), ability to segment words into sounds and syllables (Oppenheim, 1981), vocabulary use (Fry, 1967; Jansky & deHirsch, 1972; Ravenette, 1961; Schulte, 1967),



ability to abstract lexical forms such as analogies, idioms, and metaphors (Wiig & Semel, 1980), acquisition of morphological rules (Semel & Wiig, 1975; Wiig & Semel, 1976), and use of syntactic complexity (Bourgere, 1969; Oppenheim, 1981; Vogel, 1974).

These findings suggest a strong positive relationship between performance on language tasks and reading ability. This information has forced theorists, researchers, and practitioners to reevaluate traditional beliefs about reading disability. However, with the exception of one study (Bradley & Bryant, 1983), in which children who were taught to categorize sounds performed significantly better on tests of reading ability, no causal links have been established between linguistic factors and reading ability. Because the Bradley and Bryant (1983) study did not adequately describe how reading ability was measured (word recognition or comprehension), further investigation of the causal relations between reading ability and linguistic ability is indicated.

#### Discrete versus Integrated Processing Models

Traditional theoretical explanations provided for reading disability suggest that reading disorders result from a single deficiency. Such theories are based on research designed to assess discrete components of the reading process. That is, in order to determine the relative contributions of social and environmental,



Holdaway, 1979; McGee & Richgels, 1990; Teale, 1987), findings from normal language acquisition (Bruner, 1975; Luria [cited in Simon, 1957]; Nelson, 1973), and theoretical models such as the whole language philosophy have caused many to adopt a more integrated, process approach to learning to read (Goodman, 1976; Smith, 1988; Sulzby, 1985). This perspective views reading acquisition as an interactive process that involves the integration of social and environmental, neurological, and linguistic components.

The instructional practices suggested by the theoretical model upon which an integrated process approach is based are very different from those suggested by traditional discrete component models. Whereas instructional practices based on a discrete component model are characterized by identifying and targeting specific skills within each component area for instruction, the integrated process approach seeks to maintain the integration between the social and environmental, neurological, and linguistic components. The simultaneous interaction among the components during the written language acquisition process is viewed as the focus of reading instruction.

#### Reading as a Language Process

Reading is viewed as a language process that involves an interaction between social and environmental,

neurological, and linguistic abilities, according to an integrated model of learning. The ability to process written language begins at birth and is refined through experience and maturation. The child becomes more able to make sense of and organize the external environment because of the experiences and feedback provided by the social environment. The rate and complexity at which information from the external environment can be internally constructed to form concepts and complex schemata depends upon the neurological integrity of the child. The ability to make use of sign to respond to the environment and interpret it, as well as to create symbols for concepts and schemata as they are organized, is critical to this process.

Throughout development, the interactivity and reciprocity of the process are of primary contributory importance. Interaction becomes more purposeful and social as the child constructs a greater knowledge of the world around him. By symbolizing new concepts and schemata internally, and by reacting in the external social environment in more complex ways, language becomes more refined. Social interactions change to incorporate more complex and linguistically based experiences, such as playing language games, learning the alphabet, and storytelling, as the child is able to function more symbolically and more competently within the social environment. This integrated process involves experiences with signs and symbols that are both written and spoken for

most children in literate societies.

### Semiotics

Critical to spoken and written language development is the ability to use signs to organize experiences internally and to share experiences with the social environment. The use of signs is termed semiotics. Arwood (1983) provided a model of children's acquisition and development of semiotics (signs). In this model, Arwood suggests that knowledge is meaningful, or semantic, and is organized according to both social and cognitive processes. She proposes that the state of semantic organization of a child's system is reflected in the level of sign usage, and that the level of sign usage increases as a result of greater semantic organization. As the child progresses to each successive level of sign usage, symbols begin to represent elements of the real world, so that the child is less and less bound to concrete referents, and is more and more able to combine symbols with other symbols to form new semantic relationships. Therefore the child is gradually freed or displaced in time and space from direct reference to real world entities.

### Levels of Sign

The first level is characterized by the acknowledgement of perceptually present stimuli (e.g., a dog present in the room) through gazing, pointing, or other signs, and is termed prelanguage. As more and more perceptions are added

to the system (e.g., cat, spoon, etc.), they become semantically organized and tagged with verbal language. As children approach two years of age, they are able to verbally express semantic relationships between objects and actions, agents and actions, and other semantic relations (e.g., "dog eating food"). These changes mark the transition from the prelanguage to the language level of development.

The language level is characterized by the ability to verbally express semantic relationships with more specificity (i.e., expressing attributes of objects, actions, and events), but also to do so when the perceptions are not present (i.e., "The hungry dog was eating food"). Although this level allows for some displacement from the real object or event through indexical use of linguistic symbols, the words used are still very closely related to the cognitive reconstruction of the original referent.

The third level of sign usage, termed linguistic, allows for interpretation and evaluation of the representations themselves, rather than the originally perceived referents. In other words, symbols (words) can be used to create other symbols. Through the mental combination and recombination of symbols, and the mental organization and reorganization of semantic relationships, the child is able to use language for maximal displacement in time and space, creating relationships that have no direct reference to real objects and events experienced in

the environment (i.e., "My dog is a pig! or "Your Mom really blew up, didn't she?").

When children are functioning at this level of sign usage, normally occurring at about 5 years of age, their language is characterized by temporal (i.e., when, then, after), spatial (i.e., here, there, outside), and causal (i.e., because, so) terms, as well as metaphors, analogies, and idioms (Arwood, 1983). It is at this level of language development that children are able to examine and study words as entities in and of themselves, without reference to any concrete object. The phonemes, graphemes, and morphemes of words, as well as the syntactical structure of sentences, and the semantic relationships within and among sentences can be studied as objects.

#### Shared Knowledge

Increasing levels of sign usage are integrally related to higher levels of semantic organization, or development that occurs neurologically within the child. Increasing semantic organization and sign usage are also integrally related to the ability to share knowledge through symbols within social situations external to the child.

On order to organize and use symbols to share information with others, many levels of organization are required. Correct semantic relationships must be organized between and among concepts that are appropriate to the event or idea in focus. Information provided by the

context or shared by the speaker and listener that is unique to the situation must be considered. The intended listener's degree of linguistic sophistication and the degree of formality of language appropriate to the situation are all variables that must be ascertained. Whether a simple comment or an extended narration is the appropriate amount of information that should be provided must be determined. And in order to communicate the information accurately, clearly, and concisely, the correct symbols must be chosen and fluently produced.

Arwood's (1983) model, described above, provides a theoretical explanation for the acquisition and development of a semiotic system capable of such complex organization. When a child's linguistic system is capable of manipulating symbolic information internally, then the child can propositionalize information or interpret information in relationship to other information. This internal manipulation also allows for several propositions to be organized temporally, logically, causally, and conditionally in relationship to each other. Language itself becomes the vehicle for representing (internally) and communicating (externally) semantic knowledge at a highly displaced level.

#### Semiotic Model of Reading

The theory of semiotics suggests a view of language that is quite different from models of language that are more linguistically based. A semiotic model views language



as a process that is so interrelated with social, neurological and linguistic refinements, that it cannot be separated from their influence, whereas linguistic models view language as a behavior that is discrete from socialization and cognition. According to linguistically based models, rules of phonology, morphology, semantics, syntax, and pragmatics are the essence of language. A semiotic model views application of these rules as evidence of ability to symbolize at levels of greater displacement and complexity, that is becoming more increasingly refined.

There are several important implications for a model of reading, when development is viewed as an integration of social and environmental, neurological, and linguistic components, based on a semiotic model.

First, just as speech is viewed as language behavior, so is reading. That is, print is seen as functioning semiotically, even from the earliest stages of development. Print functions to assist children in refining their knowledge of language, and the processing of written language becomes more refined as children approach higher levels of symbolization, including metalanguage.

Second, if reading is a semiotic behavior, then it is neither social and environmental, neurological, or linguistic, but rather an integration. It is the interactive effects of the components upon each other, rather than the discrete contribution of any one or more of the components, that results in reading development and

reading failure. Thus, if reading failure is remediated with discrete skill intervention, it is likely to be ineffective, in that the principles of language development when viewed as an integrated process are violated in this type of instruction.

Third, spoken and written language are not viewed as separate behaviors that overlap at superficial levels, such as phoneme-grapheme correspondence. Rather, speech and print are seen as different modes of processing language. Information is received and expressed through each mode, contributing to the increased organization, displacement, and refinement of symbolic functioning, and thereby contributing to semiotic development. The language system itself, rather than discrete components of the system, should reflect the effects of experience with written and spoken language. Therefore, observable changes in other language behaviors, including speech and written composition, should accompany changes in reading behavior.

Finally, changes in the language system should be facilitated more effectively by intervention that maximizes the integration of social and environmental, neurological, and linguistic functions than by nonintegrated intervention. That is, any learning that occurs should integrate with the child's system, with fewer problems in generalization and greater refinement in displacement and complexity, if reading is treated as a

language process, rather than as a set of skills to be mastered.

### Assessing the Semiotic System

A semiotic model of language requires that language be evaluated as a process rather than by discrete components. Damico (1985) developed a procedure, termed Clinical Discourse Analysis for evaluating the adequacy of language processing. Using Grice's (cited in Cole & Morgan, 1975) Cooperative Principle as a framework, Damico (1985) identified 17 problematic behaviors that are indicative of a language system lacking sufficient organization, displacement, or refinement to communicate effectively.

According to Grice (cited in Cole & Morgan, 1975), certain rules or maxims operate during any communicative exchange. Damico (1985) used these maxims as a structure for sampling the adequacy of language use during communication. Difficulties with social, neurological, and/or linguistic aspects of processing would result in a high occurrence of problematic behaviors. The problematic behaviors are described with each maxim.

Grice's (cited in Cole & Morgan, 1975) first maxim, that of quantity, states that the speaker must provide as much information as is required for purposes of the exchange, but not so much that communication becomes tedious and inefficient. Damico (1985) identified four conversational behaviors (failure to provide significant

information to the listener, the use of nonspecific language, informational redundancy, and the need for repetition) that exhibit violation of the quantity maxim.

The quality maxim states that information exchanged in discourse must be truthful and accurate. Damico (1985) noted that when the message itself is inaccurate, then communication is interrupted.

The third of Grice's (cited in Cole & Morgan, 1975) maxims, that of relation, states that information must be provided that is relevant to the topic or situation. The five conversational behaviors identified by Damico (1985) as indicative of violation of this principle are poor topic maintenance, inappropriate response, failure to ask relevant questions, situational inappropriateness, and inappropriate speech style.

The maxim of manner is the fourth of Grice's (cited in Cole & Morgan, 1975) maxims and states that information should be presented in an unobscure, brief, orderly, and unambiguous manner. Damico (1985) identified linguistic nonfluencies, revisions, delays before responding, failure to structure discourse logically, turn taking difficulty, gaze inefficiency, and inappropriate intonational contour as behaviors that violate this maxim.

The process approach developed by Damico (1985) has shown that while all speakers demonstrate the problematic behaviors, they occur with greater consistency and frequency in the discourse of individuals with language

deficits. Furthermore, the Clinical Discourse Analysis procedure is far more accurate in identifying children with language deficits than assessments of discrete language skills, such as syntactic complexity (Damico, 1985).

#### Support For the Integrated Reading Model

If the integrated processing model of reading is a more sufficient explanation of reading development and reading failure than discrete component models, then empirical evidence should support this view. Few studies to date have explored this theoretical perspective.

Norris (1985) hypothesized that if reading is a language behavior that evolves from a theory of semiotics, then there should be a strong correlation between a child's ability to use language at a highly refined symbolic level and reading achievement level. Using an adaptation of Damico's Clinical Discourse Analysis (1985) procedure, Norris (1985) analyzed the oral narratives told by 150 kindergarten and first grade children for evidence of language difficulties. Narrative discourse was selected as the unit of analysis because it requires the ordering of ideas, and the establishment of complex relationships between characters, events, objects, and their attributes. This task requires a high level of displacement in time and space (multiple changes across setting and time referents) and perspective (describing events from the perspective of the story characters).

Norris (1985) found that when the narratives were analyzed for problematic behaviors, a significant correlation existed between oral language proficiency and reading achievement. Furthermore, performance on the task was highly predictive of reading achievement level even when the effects of age and general ability were controlled for. The results lent support to the contention that reading was related to the integrated processing of language, and that children experiencing reading failure were experiencing difficulty with this integration.

Stronger support for the integrated processing model could be shown as a result of intervention studies. Intervention provided to individuals experiencing oral language and reading difficulties should effect a change if principles of the integrated processing model are adhered to.

#### Communicative Reading Strategies

Norris (1985b, 1988) developed Communicative Reading Strategies (CRS) as an instructional intervention technique that treats reading as an integrated language process, rather than as a series of component skills to be mastered.

When CRS are employed, the facilitator (teacher) serves as a liason between the child and the author. The facilitator maximizes the opportunities for the child to process the language of the text and consequently to add refinement to the child's language. The facilitator uses

techniques such as providing orienting information, clarifying the author's intention, reducing the linguistic complexity of the utterance (the text), reiterating and conjoining ideas into complex propositions, and revising the message until the child understands both the content and the intent of the author's communication. The facilitator reacts to the information communicated when the child reads in a manner consistent with an interested listener in a conversation. (See Appendix A for a detailed description of CRS).

#### Purpose of the Study

Intervention strategies such as CRS that are based upon the integrated processing model should be successful in effecting a change in the oral and written language proficiency of individuals experiencing language and reading difficulties. Only one controlled study has been conducted to explore the effects of using CRS. Schutz (1988) employed CRS with adult aphasics with reading disturbances, that is, adults who were able to read proficiently prior to a traumatic head injury. Her results showed a statistically significant increase in reading comprehension, and a statistically significant decrease in word recognition errors from pre- to posttest. Although she also examined the effect of CRS on oral language ability, and found some increases in performance for some subjects, the results were not statistically significant. More

research examining the effect of CRS is indicated. Such research would provide empirical support for the notion of an integrated system. That is, if an integrated approach such as CRS leads to greater improvement than a discrete products or skills approach, then these results support an integrated theory of reading disabilities.

This study examines the effects of CRS on young children who are experiencing difficulty in reading and oral language proficiency. Children with oral language problems will be selected because it is hypothesized that these children do not have a language system sufficiently organized to read and understand the complex language found in grade level basal texts. CRS is hypothesized to facilitate reading for these children because the approach organizes the message conveyed by the author both cognitively and linguistically through a social communicative process. Moreover, if the system is integrated, as Arwood (1983) suggests, then the effects of CRS should be measurable on oral language and writing tasks as well as on reading tasks. In order to compare the efficacy of this approach to a discrete product approach (i.e., skills), the control group will receive traditional basal reading instruction.

Therefore, the following research questions were specifically addressed:

Question 1: Will CRS have a significant effect on the



reading ability of third grade poor readers?

- Hypothesis 1: There will be a significant interaction between the mean number of Grade 3 and Grade 4 passage questions answered correctly on the Basic Reading Inventory (BRI) (Johns, 1988) at pre- and posttest by the control and experimental group.
- Hypothesis 2: There will be a significant interaction between the mean number of words identified correctly on the Grade 3 and Grade 4 passages on the BRI at pre- and posttest by the control and experimental group.
- Hypothesis 3: There will be a significant interaction between the mean grade levels identified as the instructional reading level on the BRI at pre- and posttest by the control and experimental group.
- Hypothesis 4: There will be a significant interaction between the mean weighted scores obtained from the

Test of Inferencing Ability

(researcher developed) at pre- and posttest by the control and experimental group.

Hypothesis 5: There will be a significant interaction between the mean scores obtained on the Retelling Task (researcher developed) using the BRI Grade 3 passage at pre-and posttest by the control and experimental group.

Question 2: Will CRS have a significant effect on the oral language proficiency of third grade poor readers?

Hypothesis 6: There will be a significant interaction between the mean error ratio scores on the Norris Story Telling Task (Norris, 1985) at pre- and posttest by the control and experimental groups.

Question 3: Will CRS have a significant effect on the writing ability of third grade poor readers?

Hypothesis 7: There will be a significant interaction between the mean Spontaneous Writing Quotient

composite score on the Test of Written Language-2 (TOWL-2) (Hammill & Larsen, 1988) at pre- and posttest by the control and experimental group.

Hypothesis 8: There will be a significant interaction between the mean Thematic Maturity subtest score on the TOWL-2 (Hammill & Larsen, 1988) at pre- and posttest by the control and experimental group.

## CHAPTER 2

### REVIEW OF THE RELATED LITERATURE

The purpose of this study was to investigate the effects of a communicative approach to reading instruction on the reading, writing, and oral language proficiency of poor readers. It is hypothesized that Communicative Reading Strategies (Norris, 1985b, 1988) are more effective than traditional basal reading instruction for children with language and reading disabilities, because they are based on an integrated model of reading, rather than a discrete component model.

A discrete component model of reading ability suggests a discrete deficiency model of reading disability. Therefore, most explanations of reading disability are based on discrete deficiency models, focusing on a single factor theorized as the cause of reading problems. The first section of the review of the literature will delineate research related to three of these discrete deficiency models, each suggesting a single factor as the cause of reading disability: 1) social and environmental factors, 2) neurological factors, and 3) linguistic factors.

An integrated processing model of learning views reading as a language process involving the interaction among social and environmental, neurological, and linguistic abilities. This model emerged from the theory of semiotics,

or the use of sign, to organize experiences internally, and to externally share experiences with the social environment. Therefore, the second section of the review of the literature will examine semiotic theory as a basis for the integrated model of learning and reading.

If print and speech are seen as different modes of processing language, with both modes contributing to semiotic development, then the effects of Communicative Reading Strategies should be seen in the language system. Changes in reading behavior should therefore also be accompanied by changes in oral language and writing ability. There is a large body of empirical research to support the relationship between reading and oral language, and between reading and writing. This research will be delineated in the third section.

The fourth section of the review of the literature will describe in detail the only study to date that examined the effects of Communicative Reading Strategies on any population. The particular group of interest in that study were adult aphasics who were experiencing reading disturbances as a result of a traumatic head injury. The results of that study will be discussed relative to their implications for further research.

#### Discrete Deficiencies Theories

Many theoretical explanations have been provided for reading and writing disability that have focused on

discrete deficiencies. In general three factors have been proposed as causes of literacy failure: social and environmental factors, neurological factors, and linguistic factors. This section will discuss each of these factors as inadequate explanations for reading disorders.

### Social and Environmental Factors

Although there are many aspects of the social environment that have been studied to examine their effects on reading ability, two in particular have been investigated extensively as causally related to reading deficiencies-- low socioeconomic level and a poor literacy environment in the home. Studies examining these two factors will be discussed, and the effects of intervention programs designed to counteract their negative influence will be provided.

The relationship between social class and acquisition of reading skills is a well documented one (Seitz, 1977). That is, children from lower-class homes consistently perform less well on reading competence measures than do children from backgrounds that are more economically advantaged (Armor, 1972; Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, & York, 1966).

Abelson, Zigler, and Deblasi (1974) compared the performance of 35 economically disadvantaged children to the performance of 10 economically nondisadvantaged children in a four-year Follow Through program (kindergarten through third grade), as part of a larger study. All children were

administered intelligence and achievement tests (including reading subtests) at 10 different points during the four year program. Results showed that the advantaged children were generally superior to the disadvantaged children on intelligence and achievement measures at all testing points. Low and Clement (1982) examined the relationship between socioeconomic status and reading achievement of 109 fourth grade boys, and found that boys from lower class homes scored significantly below middle and upper class boys on measures of reading achievement.

Moreover, Venezky (1970) reported that:

...speakers of nonstandard English come mostly from the lowest socioeconomic levels (almost by definition) and that they as a group score lower than the higher socioeconomic children on IQ tests, that they tend to fall behind in school work, especially in reading, and that the difference between their performance and that of the upper group widens as the child progresses through school" (p. 339).

However, some studies have reported results that suggest that socioeconomic status may not be as highly correlated with reading achievement as previously shown. Weber (1973) provides evidence that the reading achievement of low socioeconomic third graders who attended urban schools in the ghetto areas of New York City, Los Angeles, and St. Louis was at the national norm. Moreover, the average achievement of these lower class children was

reported as being equivalent to that for typical middle-income schools.

Similar results were found in a study conducted in Australia (Share, Jorm, Maclean, Matthews, & Waterman, 1983) examining the relationship between early reading achievement of 543 children at school entry age and the literary environment and socioeconomic status (father's occupation) of the home. It was found that when literary environment of the home was partialled out on multiple regression analyses, socioeconomic status did not contribute substantially to reading achievement. However, when socioeconomic status was partialled out, the literary environment of the home still made a substantial contribution.

Considering the conflicting results of these studies, it becomes apparent that low income, in and of itself, is not a cause of reading failure. Seitz (1977) has suggested that low income must be a correlate of factors (rather than a singularly responsible factor) which do have a causative relationship to reading.

Many studies have investigated the way parents interact with their children during learning situations as one of the factors that could be related to reading achievement. Brophy (1970) and Hess and Shipman (1965) showed that lower socioeconomic parents use less effective teaching strategies than middle socioeconomic parents. Hess (1970) suggested that the cognitive abilities and the



motivational state of children from lower socioeconomic homes are highly influenced by different child rearing practices and fewer educational opportunities, all of which affect the child's potential for success when faced with the task of learning to read. That is, he attributed lower social status and resulting reading deficiencies to home environmental factors.

One environmental factor which seems to be present in many of the homes of lower socioeconomic children and correlated with subsequent reading failure is the lack of early literacy experiences. Lamme and Olmsted (1977) and Sheldon and Carillo (1952) investigated the relationship between the number of books in the home and children's reading ability, and found that as the number of books increased, so did reading ability.

Heath (1982) studied the patterns of language use related to books in three communities in the Southeastern United States. She found that the young children in a black rural mill community were not read to by their parents, and upon school entry scored in the lowest percentile range on the Metropolitan Reading Readiness tests. By the end of third grade, these disadvantaged children consistently scored low on general language arts activities, and by the end of sixth grade most of them had stopped trying to achieve academically.

Although some may view the findings of Heath (1982) and others who have found high correlations between reading

failure and limited early literacy experiences (Martin, 1975; Werner & Smith, 1981) as strong evidence for the case that there is a causal link between lack of early exposure to books and difficulty in written language acquisition, there are a number of studies to refute this suggestion. The first group of studies describes children who were not regularly exposed to early bookreading events, yet became successful readers, some at a very young age. The second group of studies identified children who had books in their homes and were read to as young children, yet were unable to succeed in reading activities in the school environment.

The group of studies describing those children who were successful in school without the benefit of early reading experiences will be presented first. Clark (1976) investigated the home background of 32 children who were able to read well on starting school at the age of five. She found that at least some of these children were not read to regularly in the home. Similarly, Durkin (1966), in her two longitudinal studies of children who read early, found that several had not had frequent early book reading experiences with their parents. Torrey (1969) reported that the early reader described in her case study had not been read to. Teale, Anderson, and Stokes (1981) observed the literacy environments in more than 50 homes of young children and found that some children who later became above average achievers in reading in school had not been read to

in their early years. The findings in these studies suggest that regular experience in being read to in the early years is not a necessary condition for successful reading achievement.

The second group of studies refuting a causal link between few early reading experiences and subsequent reading deficiencies describes children from middle and lower class homes who had early exposure to reading materials, yet failed to become successful readers. Heath (1982) found that children in Roadville, a white working class community in the Southeastern United States, were surrounded by books from an early age. Parents read to the children frequently and asked children questions about the books. The children were relatively successful in their first four years of school. However, upon entry into the fourth grade, their reading ability was limited, and continued to diminish as they were expected to accomplish higher level reading tasks.

Miller, Nemoianu, and DeJong (1986) studied very low income children in South Baltimore who had access to literacy experiences at very young ages. Their performance in school did not seem to be enhanced by these experiences, as they fell behind their classmates in reading and language tasks.

The findings of these studies confirm that social and environmental factors are certainly related to reading ability, but alone can not account for the large numbers of

children who are disabled readers. The failure of large scale compensatory intervention programs directed at providing literacy experiences for economically and environmentally disadvantaged children attests to the inadequacy of viewing social and environmental deprivation as the singular cause for reading disability. Headstart, the most well known and wide spread compensatory program, has done little to help lower socioeconomic children cope with the demands of school (Eysenck, 1971; Jensen, 1973). Although there seem to be some short term advantages for children in Headstart programs (Weikart, 1971), the effects seem to diminish by the end of one year of formal education (Bronfenbrenner, 1974).

Follow Through programs were developed and implemented to extend the short lived positive effects of Headstart, as a result of criticisms that it was unrealistic to expect long lasting effects from relatively short term intervention. Abelson, Zigler, and DeBlasi (1974) compared the performance of 35 disadvantaged children participating in a four year Follow Through program with 26 disadvantaged children who were not in Follow Through programs. At the end of third grade, the average reading comprehension for children who had participated in the program was significantly higher (with a mean difference of three months) than for children who had attended regular schools. However, the children in the Follow Through program still

lagged half a year behind the level expected of end-of-the-year third graders. That is, although there was significant improvement for the children receiving intervention, they were still unable to perform on grade level.

#### Summary of Social and Environmental Factors

The results of the research that has been conducted to determine social and environmental influence on reading achievement have been conflicting. Although there is much empirical support for the relationship between social class and reading ability, it can not be affirmed that membership in the lowest social strata ensures reading failure, nor can it be claimed that all poor readers are members of the lower class.

Similarly, although there is evidence to support a link between limited or no early literacy experiences and reading disability, several studies have shown that some children who are not successful at acquiring written language have been exposed to literacy materials as young children. Conversely, some children who were not read to in the home became successful readers at very young ages.

Moreover, intervention programs such as Headstart and Follow Through have been minimally successful at helping children compensate for poor literacy environments. The inconsistent results of studies investigating the influence of social and environmental factors on reading, coupled with the limited benefits realized from intervention programs

lends support to a more integrated model of reading ability and disability. That is, when researchers and theorists attempt to isolate and study the effects of social and environmental components on reading, the results are influenced by neurological and linguistic variables that have not been accounted for.

Therefore, the results of each study will reflect the unique integration of social and environmental, neurological, and linguistic factors operating within each subject in the sample, creating inconsistent results. And when intervention (e.g., Headstart, Follow Through) does not focus on maintaining the integration of the three-component system (e.g., isolated skill instruction), then growth in reading ability is minimal.

#### Neurological Factors

Reading disabilities have been attributed to fundamental cognitive processing, or neurological, deficiencies for nearly a century. That is, disordered cognitive functions such as visual and auditory perception deficits, have been identified as the underlying causes of reading difficulties. In the neurological deficit view of reading disability, the child lacks the ability to perform some cognitive function, and this failure to perform causes the child to fail to acquire the necessary skills for successful reading. Most research conducted in this area has focused on three areas of neurological

deficiencies: 1) visual perception deficits, 2) cross-modal transfer deficits (the inability to integrate visual and auditory information), and 3) memory deficits. Each of these three neurological factors will be discussed in terms of their inability to account for reading disorders. Also, some of the instructional practices that have evolved out of the neurological deficit model of reading disability will be addressed in terms of their ineffectiveness.

### Visual Perception Deficits

Reading disabilities have been attributed to visual perception deficits for nearly 100 years (Cruickshank, 1972; Hinshelwood, 1900; Morgan, 1896; Orton, 1925, 1937).

The notion that reading difficulties stem from visual perception deficits is based on observations of poor readers misperceiving letters or confusing the orientation and identity of letters (saying b for d). Bender (1957) speculated that for some children the world of visual perception is disordered and this prevents them from acquiring normal letter recognition and discrimination. The results of several studies support this speculation.

Orton (1937) and Hermann (1959) have reported orientation confusions in disabled readers. Moreover, Lyle and Goyen (1968) found that children with reading disabilities display sluggish visual perceptual processing requiring more time for recognition and discrimination.

However, other studies have provided conflicting empirical evidence suggesting that disabled readers have

perceptual systems that function normally. Liberman, Shankweiler, Orlando, Harris, and Bell-Berti (1971) found that orientation reversals occur for both normal and disabled readers during oral reading. Vellutino, Pruzek, Steger, and Meshoulam (1973) reported that both normal and disabled readers experience orientation reversals on tests of immediate visual recall. Gupta, Ceci, and Slater (1978) examined visual discrimination abilities of good and poor seven-year-old readers on match-to-sample tasks using three sets of stimuli: letter-like nonsense shapes, strings of letters, and pronounceable nonsense words. Their results revealed that there were no differences in the two groups' ability to discriminate between unfamiliar visual forms, but when the items to be matched were letters, the poor readers did not perform as well.

Similar results were found by Vellutino (1987) when a copying task was used. He investigated normal and poor readers' ability to reproduce, from visual memory, words from an unfamiliar writing system. Children were asked to print Hebrew words and letters in the proper sequence and orientation after brief exposure. The poor readers did as well as the normal readers on this task. That is, when complex wordlike symbols lacked any linguistic associates--had no meaning or sound--the visual recall of these symbols was no less difficult for the normal readers than it was for the poor readers. Vellutino (1987) conducted another study



in which poor readers in the second through sixth grade were asked to copy designs, words, scrambled letters, and numerals accurately (in the correct orientation and sequence) after brief visual presentation. Next they were asked to name the stimuli that were actual words. They typically copied the words accurately (e.g., was) and could name the letters in the correct order, but reversed the sequence of letters when reading the word (e.g., saw for was ). Vellutino concluded that there was no dysfunction in visual-spatial processing, but rather difficulty in storing and retrieving the names of printed words. The results of Vellutino's studies indicate that memory for visual symbols representing words is mediated by the linguistic properties --meaning and sound--of those words. His results suggest that reading problems are more associated with language problems than they are with visual perception deficiencies.

Although the differences between good and poor readers on visual perception tasks were shown at the letter level on the Gupta et al. study, and at the word level in the Vellutino task, the implications are the same. The more language-like the symbols are, the more discriminatory the task becomes. These findings provide more support for the integrated model of language and reading. That is, linguistic factors affecting reading can not be disentangled from neurological factors.

Visual perception training. In the neurological deficit model of reading disability, the deficit is

identified, and remediation is focused on that deficit. Therefore, when children are identified as having visual perception problems, remediation includes practice on visual perception tasks. Most results of studies where children were trained to perform visual perception tasks reveals improvement in performance on visual perception tasks, but no significant improvement in reading (Hammill, Goodman, & Weiderholt, 1974; Robinson, 1972). Exercises using nonverbal stimuli on workbook pages for teaching visual discrimination skills have been found to contribute very little, if anything to reading ability (Harris, 1976; Paradis, 1974). These findings support the notion that remediation directed at a discrete deficiency, rather than the integrated language system, are ineffective in changing reading behavior.

#### Cross-modal Transfer Deficits

Birch (1962) proposed that reading disorders are caused by cross-modal transfer deficits, or the inability to integrate visual and auditory information. Birch and Belmont (1964) found that poor readers in the early grades had more difficulty matching auditorily presented rhythmic patterns with visual representations of those patterns than did normal readers. Similar cross-modal transfer deficiencies were found in poor readers in several other studies (Beery, 1967; Muehl & Kremenak, 1966).

However, Vellutino and Scanlon (1982) contended that the results found on the Beery (1967), Birch and Belmont (1964), and Muehl and Kremenak (1966) studies were due to poor readers' inability to use linguistic encoding (verbal encoding for efficient storage and retrieval) to assist in short-term memory of visual stimuli, rather than a cross-modal transfer deficiency. That is, they suggest that the deficiency is linguistic, rather than perceptual. Blank and Bridger's (1966) and Blank, Weider, and Bridger's (1968) study reinforced this conclusion. They found that normal readers used verbal mnemonics more effectively than did poor readers to help them remember visual stimuli. These conclusions suggest, once again, that differences in ability between poor and good readers is directly related to the language system and is not due to an inability to integrate auditory and visual information.

#### Memory Deficits

Reading disability has been attributed to several different types of memory deficits including short-term memory and serial memory (the recollection of given stimuli and the way in which it is ordered) deficits. Jorm (1979) asserts that short-term memory deficits are responsible for word recognition as well as comprehension difficulties experienced by disabled readers. His assertion has been supported by empirical data showing that disabled readers do not encode or retain visually presented items, whether they are alphabetic or nonalphabetic (Cummings & Faw, 1976;

Spring & Caps, 1974). These results suggest that the proposed memory deficit is not limited to letters and words.

Disabled readers exhibit proposed memory deficits not only for item information presented visually or auditorily, but also for the order in which the information was presented. They do not perform well on auditory ordering tasks such as the Digit Span subtest of the WISC (Rugel, 1974; Stanley, 1975), or the WAIS (Payne, Carr, & Holzman, 1983). Nor are they able to perform as well as normal readers on tasks requiring serialization of meaningful figures and letters (Bakker, 1967, 1972). Results of these studies are supportive of the long held claim that poor readers make sequencing errors in reading and spelling (e.g., was for saw).

However, Perfetti and Goldman (1976) and Perfetti and Lesgold (cited in Just & Carpenter, 1978) have presented contradictory evidence to the notion that disabled readers have short term memory deficits. They found that normal and poor readers performed similarly on a task requiring oral recall of unrelated digits presented auditorily. However, differences in the two groups were found when the task required recall of words in a passage. Vellutino, Smith, Steger, and Kaman (1975) found similar results. Disabled readers were able to recall as many letters (and in the correct sequence) in briefly exposed words as normal readers, but they were unable to perform as well as normal

readers when asked to read or spell the same words.

The evidence suggesting that short-term memory deficits are causally related to reading disability is conflicting. Results are consistent relative to poor readers' ability to recall meaningful auditory and visual stimuli; they are unable to perform as well as normal readers. However, findings are mixed on whether poor readers have basic memory deficits, or if these deficits are task specific. Because poor readers' perform less well on visual perception tasks and cross-modal tasks only when linguistic components are present, it can be inferred that this may be the case for memory tasks, as well. The suggestion is that deficiencies are language related.

#### Summary of Neurological Factors

Three neurological factors theorized to cause reading deficiencies have been discussed: visual perception deficits, cross-modal transfer deficits, and memory deficits. The results of studies conducted to examine each of these factors as the singular cause of reading disability have been inconclusive.

Some studies suggested that the visual perception of disabled readers is disordered, causing orientation reversals. However, when immediate visual recall tasks were performed by disabled readers, the reversals did not occur unless linguistic components (letters and words) were used to elicit the response. Moreover, visual perception training used to remediate orientation reversals resulted

in improved performance on visual perception tasks, but no improvement in reading ability.

Cross-modal transfer studies also reflected the influence of the language system. When disabled readers were unable to match auditorily presented rhythmic patterns with visual representations of those patterns, it was contended from the results of several studies that they were unable to make use of verbal encoding to assist them in recalling visual stimuli.

Studies conducted to examine the influence of memory deficits on reading suggested that disabled readers were not handicapped by short-term memory or serial memory deficits unless the task required recall of meaningful visual or auditory stimuli. These findings suggest the influence of the language system on performance on the memory tasks.

If these findings are interpreted from the perspective of an integrated model of learning, they are not unexpected. The integrated model of learning upon which this study is based views the neurological integrity of a child's system as crucial to the interactive system. That is, concept formation and schemata construction are dependent upon neurological integrity. However, the three component system (social, neurological, and linguistic) is an interactive and interdependent one. The formation of concepts is also dependent upon the signs (language) used to interpret and

respond to the social environment. And, in turn, the appropriate use of signs to interpret the environment is dependent upon the integrity of the neurological components of the system. Therefore, the neurological aspects of the interactive system can not be assessed independently of the linguistic and social aspects. For these reasons, studies examining the contribution of neurological deficits to reading disability are flawed in that they have overlooked the interactive effects of environmental and linguistic experiences on each child in the tested sample. The contradictory results are not inconsistent with expectations.

#### Linguistic Factors

The influence of environmental and neurological factors on reading disability has been investigated for many years. More recently, reading disability research has focused on deficits in linguistic ability. This research has isolated components of language processes and examined them for their influence on reading deficiency. The linguistic deficit theory of reading disability has implicated four kinds of language problems as causally related to reading disability: phonemic awareness, phonetic coding, semantic factors, and syntactic knowledge. Each of these four linguistic factors will be discussed in terms of its inadequacy for explaining reading disability. Also, some of the inappropriate instructional practices that have emerged from the linguistic deficit

theory will be addressed.

### Phonemic Awareness Deficits

Children's awareness of phoneme units within spoken words is considered to play an important role in their learning to read. There are two aspects of phonemic awareness that seem to be related to reading ability: phonemic discrimination and phonemic segmentation. Eimas (1975) found that infants are able to detect phonemic differences in language. Upon school entry, most children can discriminate between words that differ on only one phoneme (e.g., dog, log) (Blank, 1968). Wepman (1960) proposed that poor readers are unable to discriminate between sounds presented auditorily. Results of his studies showed that children who were impaired on measures of reading achievement were unable to make same/different judgments on minimally contrasted word pairs (e.g., sit/set) presented auditorily. However, Blank (1968) and Shankweiler and Liberman (1972) found that poor readers in their studies who were unable to detect differences in minimally contrasted word pairs were able to vocalize the same words when they were presented apart from each other in oral repetition tasks. They concluded that the deficiency was not one of discrimination, but rather one of failure to explicate and encode the differences detected.

Liberman, Shankweiler, Liberman, Fowler, and Fisher (1977) have asserted that in order to translate the written



code into phonological form, children must be aware of the phonemic structure of language. That is, they must be able to abstract phonemes from the speech signal (e.g., indicating the number of sound segments in a word). Rosner and Simon (1971) found that correlations between reading achievement and performance on an auditory analysis test (i.e., pronouncing a word, deleting a phoneme from it, and pronouncing it again) were moderate for lower elementary children and then tapered off by the fifth and sixth grade. In light of Blank's (1968), Rosner and Simon's (1971), and Shankweiler's et al. (1972) findings, Ehri (cited in Murray, 1978) and Henderson (1980) have suggested that phonemic awareness is a result of learning to read, rather than a developmental precursor. If this is the case, then it is unlikely that the inability to abstract phonemes causes reading disability.

Phoneme awareness training. However, Bradley and Bryant (1983) asserted that they established a causal link between the ability to categorize sounds and reading ability. In one part of their study they correlated initial sound categorization ability of 368 four- and five-year-old children who had not yet learned to read with their reading and spelling ability over the next four years. Results showed that initial sound categorization ability accounted for a significant percent of the variance in final reading and spelling scores.

Moreover, they trained three low level (on sound

categorization ability) subgroups to categorize sounds, to categorize sounds and match them with letters, and to categorize pictures, respectively. The fourth group was a control. The training occurred in 40 sessions over two years. The groups trained to categorize sounds performed significantly better on reading posttests than the control group. They concluded that sound categorization ability is causally related to reading ability. Though the results are impressive, the reading test administered was not described. If it assessed word recognition only, then it could be suggested that training on a discrete component of reading has produced results on a discrete component of reading.

#### Phonetic Coding Deficits

The ability to abstract a phonemic unit of speech and associate it with an orthographic representation has been shown to differ between good and poor readers. Shankweiler, Liberman, Mark, Fowler, and Fischer (1979) found that although good readers outperformed poor readers when asked to recall strings of nonrhyming consonants, their performance was reduced to the level of poor readers' performance on rhyming consonant strings. Poor readers' performance did not change. These results were interpreted as suggesting that poor readers are not sensitive to a phonetic code, and therefore are not disrupted by rhyming letters. Vellutino et al. (1973) reported that good readers

did not differ from poor readers when asked to copy geometric shapes, but outperformed poor readers when asked to pronounce visually presented strings of numbers, unrelated letters, and real words. They concluded that poor readers suffered from a verbal, or linguistic deficit. Perfetti and Hogaboam (1975) examined third and fifth grade good and moderately impaired readers' ability to decode real and pseudowords, and found that poor readers performed more slowly on both tasks, but had particular difficulty with pseudowords. These results revealed that even children with less severe reading problems may have phonetic coding problems.

However, Wolford and Fowler (1980) used two tasks specifically designed to produce two separate kinds of confusion errors (auditory and visual) in an effort to determine if phonetic coding was uniquely responsible for performance differences between good and poor readers. Their results showed that normal readers outperformed poor readers on both tasks. Moreover, visual confusions occurred on the visual task, and verbal confusions occurred on the verbal task. They concluded that poor readers are deficient in both the visual and verbal aspects of phonetic decoding.

Phonetic coding training. Vellutino and Scanlon (1979) compared good and poor readers in second and sixth grade on a verbal response task, and a grapheme-phoneme correspondence task, with or without prior training in

segmentation analysis. Poor readers in both grade levels performed below the level of good readers on verbal response learning as well as on code acquisition. Segmentation training had no effect on verbal response learning for either group. However, segmentation training did affect phoneme-grapheme correspondence learning, although poor readers did not profit as much as good readers from segmentation training. It appears that when poor readers are trained on segmenting the sounds in a word, they are able to perform better on phoneme-grapheme tasks, but no mention was made of improvement in reading ability. It can not be assumed that more proficiency on phonetic coding tasks produces a better reader.

#### Semantic Deficits

A third linguistic deficit that has been suggested as a cause of reading disability is the inability to derive meaning from printed text (Goodman, 1969; Kolers [cited in Levin & Williams, 1970]; Smith, 1978). Fry (1967) compared high and low achieving second graders (based on their performance on the Metropolitan Achievement Test) and found significant differences in vocabulary use. Jansky and deHirsch (1972) found high correlations between measures of vocabulary in kindergarten and reading achievement in second grade. Lyle and Goyen (1969) found consistent patterns of low verbal and high performance intelligence quotients in poor readers in the primary grades.

Particular deficits were shown in knowledge of words and verbal concept formation. Vellutino and Scanlon (1980) found that poor readers performed worse than normal readers on free recall of abstract words. These results suggest that poor readers are unable to derive as much meaning from texts as their more able counterparts.

However, several studies have provided conflicting results. Perfetti, Bell, Hogaboam, and Goldman (1977) required good and poor readers to identify words scattered throughout a story which they either heard or read. Latency of identification was compared with latency to identify similar words seen in isolation. The poor readers used context of the story to help them identify words at least as much as good readers. It was concluded that poor readers are not incapable of processing semantic (and syntactic) information. Several other studies have found similar results (Schvaneveldt, Ackerman, & Semlear, 1977; West & Stanovich, 1978).

One interesting study related to semantic deficiencies is that of Guthrie (1973). He reported that disabled readers had difficulty comprehending passages, even though there was no difference between good and poor readers on recognizing the individual words in the passage. These results could be influenced by poor readers not knowing the meanings of the individual words they could decode initially.

#### Syntactic Deficits

There is some evidence to support the notion that poor

readers do not understand or apply complex grammatical relationships. Fry, Johnson, & Muehl (cited in Bakker & Satz, 1970) obtained language samples from good and poor seven- and eight-year-old readers. They found that normal readers used more flexible and more complex syntactic structure, and used more clauses to elaborate the meaning of subjects and verbs. Goldman (1976) examined good and poor third, fourth, and fifth grade readers' ability to comprehend simple and complex syntactic structure. He found that poor readers at all ages had more difficulty comprehending more complex syntactic structure, whether it was presented visually or auditorily. However, poor readers' performance on simpler syntactic structure was comparable to that of good readers.

Oppenheim (1981) reported that low achieving kindergartners performed significantly more poorly on a task measuring comprehension of sentences with embedded clauses, than did high achieving kindergartners. Also, Vogel (1974) compared the performance of seven- and eight-year-old good and poor readers and found significant differences on recognition of grammaticality, sentence imitation, use of correct grammar on sentence completion tasks, morphological usage, and comprehension of syntax.

The results of these studies suggest that poor readers experience more difficulty with the syntactic aspects of language than do good readers. However, because the use

and comprehension of appropriate and complex syntax is so interdependent upon the level of semantic development, it is unlikely that syntactic deficits can be identified as the singular cause of reading disability.

#### Summary of Linguistic Factors

The results of the research that has been conducted to determine the influence of linguistic factors on reading achievement has suggested strongly that poor readers have difficulties with tasks designed to measure discrete linguistic components such as phonology, syntax, and semantics. This is not unexpected since reading is a language based process. However, the interpretation of these results is problematic. First, those who find that poor readers have particular linguistic deficiencies attribute the reading problems to those deficiencies. The theoretical foundation upon which the present study is based suggests that children exhibit reading problems and linguistic deficits because the language system itself is disordered. The studies in which training on linguistic tasks was provided to poor readers indicate, for the most part, that their performance improved on those linguistic tasks, but not on reading ability. It is suggested that if a more integrated approach, incorporating all aspects of the semiotic reading model were employed, then improvement would be observed on real reading tasks, as well as other language tasks.

### Semiotic Theory

An integrated model of reading is based on an integrated model of learning. That is, if learning occurs as an interaction of neurological, social, and linguistic influences, then reading is no different. The integrated model of learning upon which the present study was based was developed by Arwood (1983). She suggests that children acquire and develop the use of semiotics (signs), in order to make sense of their world. Her work is based on the work of Charles Peirce (1850-1890), who is considered the father of pragmatics.

Peirce (1850-1890) distinguished between pragmatics (a study of life) and pragmaticism (a study of semiotics). Most pragmaticists are concerned with the practical consequences of life, whereas Peirce was concerned with the practical consequences of signs. More confusingly, when linguists and language development theorists speak of pragmatics, they are referring to the consequences of the use of signs, or Peirce's "pragmaticism". The important aspect of sign usage is the consequence of their use on other listeners and speakers.

Peirce's works have suggested several principles of pragmaticism: 1) Signs do not exist independently of their use, 2) Signs cannot be created--their origin must be derived from other signs, 3) Conventionality refers to the state of awareness of sign usage, and 4) Signs come from objects affecting other objects (Arwood, 1983).



These pragmaticism principles are the basis for studying semiotics. There are several implications of these principles. First, there is no sign if it is separated from use. The act of using signs in a language signals the existence of the language. Therefore, when individual components of language are studied, taught, or assessed, the language itself is lost. Language does not exist without use. In view of this principle, any isolated "language" activities taking place in classrooms, that do not allow children to use language for a real purpose, are not language activities at all, and have no value in terms of language development. Applied to the reading process, this principle implies that any activities that are focused on singular components of reading (e.g., word identification, phonetic analysis) are ineffective in reading development, since singular components are not signs and do not add up to reading.

Second, the system of signs is the creator of all other signs. That is, language is used to create language. And signs can not be created except through the use of other signs. Applied to a learning situation, if children are not provided an opportunity to use their own language systems in purposeful ways, then they have no reason to learn new signs (more language). When applied to reading, the implication is that children must be allowed to use reading in purposeful ways, in order to understand and use

more written language. That is, if reading is a performance, instead of a means of interacting with others, then growth in reading is limited.

Third, a hearer can recognize a speaker's use of a sign, only if that sign is a convention of the hearer's system. And a speaker will incorporate the use of a sign only if that sign is a convention of the speaker's system. That is, there is no real conventionality of use. A sign is conventional only if it is recognized as such by users of the sign. Implications for reading are clear. Children will not incorporate the "conventions" of reading (i.e., stopping at a period, silent e's, etc.) until these are conventions of his own system. Therefore, isolated instruction without purpose is rendered futile. However, if a child has reason to incorporate these conventions into his system (i.e., in order to understand a letter received from a classmate), then change may occur in the system.

Fourth, the relationships between and among people, actions, and events necessitates the production of signs. If relationships did not need to be represented then there would be no development of signs in a language system. This principle reinforces the importance of the social aspects of language. Language is not language without relationships between and among people. Therefore, the communicative aspects of reading (between author and reader) should be the primary focus any reading program.

Peirce's theory of semiotics is crucial to the

understanding of an integrated model of learning, language, and reading. Because signs represent relationships between objects and between other signs, then cognition is mediated by signs. Thus, without representation, there is no cognition. And without reason for representation, there is no cognition. Therefore language (linguistic aspects of the system) mediates the ways in which external stimuli are organized to construct meaning (the neurological aspects of the system) so that interaction can occur between a speaker and a listener or between a writer and a reader (the social aspects of the system). It is important to note that the total integrated system is not equal to the sum of its parts. That is, each component contributes to the system, but cannot be isolated from the system for examination or for remediation. Because the system is interactive, interdependent, and interrelated, examination and/or remediation of the system should focus on the dynamics of the system. Communicative Reading Strategies attempt to do this.

#### Spoken and Written Language: Two Modes of the Language System

Communicative Reading Strategies were developed to effect changes in the integrated language system through the use of written language. Within an integrated language system, spoken and written language are not viewed as

separate behaviors, but rather as different modes of processing in the same language system. Both modes contribute to semiotic development. Therefore, according to this model, the effects of Communicative Reading Strategies should be observable in both modes of language, spoken and written. There are a number of empirical studies to support the strong relationship between reading achievement and oral language competence, and between reading achievement and writing ability.

#### Reading and Oral Language

Loban's (1964) research is probably the most impressive support for the strong relationship that exists between oral language ability and reading ability. In his longitudinal study, he examined the relationship between the reading achievement of children in fourth through eighth grades and their oral language competence evaluated in kindergarten. Oral language competency was measured by means of a vocabulary test administered orally by teachers. Children were rated on: amount of language; quality of vocabulary; skill in communication; organization, purpose and control of language; wealth of ideas; and quality of listening. He found a strong positive relationship between overall oral language ability and reading achievement that grew stronger as the children got older. This study has two implications for the notion of one language system with two modes. First, oral language performance appears to be a good predictor of reading achievement. Second, as reading

improved, oral language improved, indicating that each mode was affected by changes in the other.

Laine (1978) investigated the oral language abilities of 60 seven-year-old and 60 ten-year-old black, Chicano, and Anglo boys of lower- and middle-socioeconomic levels. The boys were divided into successful and nonsuccessful readers based on teachers' determinations of whether a child was reading at or above grade level or two or more years below grade level. Language abilities were assessed through communication unit analysis of interviews and oral responses to pictures. Results revealed no significant differences between socioeconomic levels and no significant differences among ethnic groups on oral language ability. However, significant differences were found between good and poor readers on oral language ability.

Johnson (1982) examined the association between communicative competence and reading achievement using a Piagetian schema. The subjects were 180 first through sixth graders (15 randomly selected males and 15 randomly selected females from each grade level). The oral language test was derived from an explanation task. Children were shown a board divided into nine squares on which 16 objects differing in shape, color, and size were placed. The subject's task was to give directions to a hypothetical subject who could not see the board, on how to place them on another board so as to recreate the same pattern. The

reading subtest of the Metropolitan Achievement Test (Balow, Farr, Hogan, & Prescott, 1979) was used to measure reading achievement. Statistically significant correlation coefficients were found at all grade levels except first.

Feagans and Short (1986) examined the oral language communication competence of 30 normal and 30 learning disabled children across a three year period. A three part communication task was individually administered each of the three years to the children who were ages six and seven at the start of the study. One task involved listening to and then performing a series of six steps in a set of directions. After children demonstrated the sequence perfectly, the second task called for the child to relate the directions to a puppet. Then children had to rephrase their explanation of each step by either a verbal or nonverbal rephrase request. The learning disabled children differed from the normal children on listener competence and speaker competence over the three-year period. It took the learning disabled children longer to learn the information, and they made more directional errors in reaching the criterion.

The results of these studies provide empirical support for the oral language competence-reading achievement relationship. Therefore, studies employing instructional intervention for poor readers and speakers are indicated. That is, if instructional intervention using written language and based on an integrated model of learning can

effect change in oral language competence, then more support is provided for the notion of one language system. Conversely, if communicative competence intervention can effect changes in the processing of written language, then the theory is also supported.

#### Reading and Writing

Stotsky (1983) has provided the most comprehensive synthesis of the research conducted to explicate the reading and writing relationship. She summarizes the correlational research by stating that better writers: 1) tend to be better readers, 2) tend to read more than poorer writers, and 3) tend to produce more syntactically mature writing than do poorer writers. In instructional intervention studies, when writing has been taught to improve reading, gains in reading comprehension or retention have resulted. However, almost all studies seeking to improve writing through reading instruction have shown this to be ineffective. Research that sought to improve writing by providing reading experience (more opportunities to read, without direct instruction), in place of grammar study or additional writing experiences found that reading was as beneficial or moreso than the grammar or writing. Stotsky concludes that, until there is stronger evidence to the contrary, writing instruction does not appear to be a substitute for reading instruction, nor can reading instruction replace writing instruction. However,

reading experience may be as critical a factor in developing writing ability as writing instruction itself.

Eckhoff (1983) explored the effects of children's reading on their writing by analyzing reading texts and the writing samples of second graders. One class ( $n = 17$ ) used a series of readers designated Basal A, which more closely matched the style and complexity of literary prose. Another class ( $n = 20$ ) was involved with Basal B, using the simplified style used in many basal reader texts. Writing ability was evaluated using two writing stimuli, one expository, and one narrative. The writing samples obtained were analyzed for style, format, and frequency of occurrence of linguistic structures. Results revealed that the writing of Basal B children was less elaborate than that of Basal A children. The Basal A children added to the linguistic complexity of their sentences by using complex verb forms, subordinate clauses, and infinitive and participial phrases. The Basal B children tended to copy the format of the reading texts by writing one sentence per line.

Shanahan and Lomax (1986) compared and evaluated three theoretical models of the reading-writing relation at grades two and five: 1) the interactive model, 2) the reading to writing model, and 3) the writing to reading model. All models included word recognition, sentence and passage comprehension, spelling, syntax, vocabulary, and story structure as variables, but in different orders of causal relationship. Two standardized reading tests, a



limited cloze test, a spelling test, and two writing samples were used to obtain the values for the variables used in the model. Results showed that the interactive model was better than the other two at both grade levels, and the reading-to-writing model was better than the writing-to-reading model at explaining the reading-writing relationship.

In light of Stotsky's (1983) conclusion from the results of many studies that reading instruction does not seem to affect writing ability, but reading experience does, it may be that the type of instruction has a direct effect on writing competence. The results of Eckhoff's (1983) study provide some support for this theory. Shanahan and Lomax's (1986) findings that an interactive model is superior to either of the other two is even more supportive of the theory of one language system. Perhaps the results of the present study will provide more insight into the effects of integrated reading instruction on writing ability and more support for the theory of one integrated language system.

#### Communicative Reading Strategies

Communicative Reading Strategies were developed by Janet A. Norris, who was interested in the causes of language and learning disorders and the efficacy of using written language as a compensatory strategy to remediate those disorders (1985b). Because language therapy focuses

on oral language proficiency, traditional intervention uses the auditory mode of language for remediation. Norris noted that the auditory mode allows for maximum efficiency in communication because of its properties of speed, multidirectionality, and nonreliance on external objects (Arwood, 1983). However, Norris also noted that these very same properties render the auditory signal very transitory. In contrast, the visual mode (written language) provides a more stable signal. That is, because written language can be maintained in time and space, it can be processed repeatedly until relationships and the manner in which those relationships are expressed through language are understood. Therefore, Norris (1985b) concluded that written language could be used as a highly effective compensatory strategy for allowing children with language deficiencies to access the language code. Moreover, Norris (1985b) posited that written language could be used to enable a child to acquire the visual representation of the language system (learning to read). Norris (1985b, 1988) designed Communicative Reading Strategies (CRS) to accomplish both of these goals. (See Appendix A for a detailed description of the techniques used in CRS).

To date, only one study has examined and documented the effects of CRS on subjects with language and reading difficulties (Schutz, 1988). Schutz investigated the effects of CRS on the reading and oral language proficiency

of adults who were literate at one time, but at the time of the study were experiencing reading disturbances as a result of aphasia (i.e., receptive and/or expressive disorders in the use of language) due to a single left hemisphere cerebral vascular accident (i.e., stroke).

Schutz (1988) identified six subjects ranging in age from 45 to 78 who were all readers prior to a head injury. The subjects were randomly divided into two groups and all were pretested on the Porch Index of Communicative Ability (PICA) (Porch, 1981) and the Informal Reading Inventory (IRA) (Burns & Roe, 1980). Subjects in Group One were included in a simple time-series design where comparisons could be made between the subjects' performance under baseline and experimental conditions. That is, all subjects in Group One were administered the two pretests. Then weekly reading probes were obtained for a baseline period of five weeks during which no intervention occurred. The PICA and the IRA were then readministered at the end of this baseline condition. Next the subjects received CRS instruction for five weeks of intervention. Each week reading probes were obtained during intervention. Posttesting using the PICA and IRA followed the intervention phase. For Group Two, all testing and weekly probes were administered in the same fashion. However, CRS instruction took place during the first five weeks of intervention. No instruction occurred during the second five weeks of maintenance.

For subjects in Group One, the average scores from the

final week of intervention were compared to the average weekly scores of the baseline period. For subjects in Group Two, the average performance during the first week of treatment was compared to average weekly scores during the maintenance period.

Group analysis indicated a treatment effect for the reading abilities of the six aphasics studied. That is, comprehension improved and the number of miscues decreased significantly following treatment. Moreover, isolated word recognition increased significantly, and maintenance of the treatment effect on reading was documented, though not universally across all subjects in Group Two. That is, some significant changes in reading ability following treatment were significantly maintained, others dropped minimally, and others returned to their pre-treatment level. There were no significant changes in oral language proficiency following treatment.

These results suggest that CRS is effective in improving reading ability, at least for short term, in subjects who have suffered severe trauma to the language processing areas of the brain. They are important for several reasons. First, because they provide support for an integrated approach to remedial intervention with subjects experiencing severe disorders, they suggest that these communicative strategies may be even more successful with children exhibiting milder disorders. The present

study examined the effectiveness of CRS with such children.

Second, although Group One served as its own control group, in that subjects received no intervention during the baseline period, a comparison was not made between CRS and another reading intervention. That is, the results of the study suggest that CRS intervention is better than no intervention, but the study did not compare the effects of CRS with the effects of other approaches. The present study compared the effectiveness of CRS with the effectiveness of traditional basal reading instruction on children with language and reading disabilities.

Third, Schutz (1988) found no changes in oral language proficiency following intervention. The present study examined the effects of CRS on oral language proficiency using a different measure (Norris Story Telling Task) to provide further insight into these findings.

Fourth, Schutz (1988) did not examine the effects of CRS on writing ability. The present study included a measure of spontaneous writing ability in order to examine changes in that mode of the language system following intervention.

### Chapter Summary

This review of the literature provided a theoretical foundation and empirical findings indicating a need for further intervention research, such as the present study.

The literature reviewed addressed four areas related to the study: 1) the inadequacy of discrete component models of reading disability, 2) the semiotic theory as a basis for an integrated model of reading, 3) empirical support for spoken and written language as two modes of one language system, and 4) A description of the only study to date examining the effects of CRS on reading and language proficiency.

The three discrete component models of reading disability (social and environmental deficits, neurological deficits, and linguistic deficits) were shown to be inadequate explanations of reading failure in that: 1) the empirical data do not seem to support a singular cause theory of reading disability, 2) instructional intervention focused on discrete deficiencies seems to be ineffective in changing reading behavior, and 3) the contradictory results obtained would support an integrated model of reading.

Semiotic theory offers a sound base for an integrated model of learning and reading. That is, because signs do not exist without their use, children who have not been encouraged and expected to use signs (language) to manipulate their environment are less capable of using them effectively. Also, because the system of sign creates all other signs, children will not learn new signs (spoken and written language) until they have created them from their own systems; children can not be taught new signs. And finally, there is no conventionality of use of signs.

Rather, the conventions of a sign reside within an individual system of signs. Conventions (e.g., noun-verb agreement, punctuation, capitalization) of language are only conventions of the systems using them. In light of this theory, the value of direct instruction is questionable.

Next, empirical support for the oral language-reading ability and the reading-writing relationships were provided in the third section of the literature review. Because research shows that oral language, reading ability, and writing ability are closely related, and because experience in one mode seems to affect performance in the others, support is provided for one language system that is multimodal.

Finally, the one study conducted to examine the effects of CRS on reading and oral language ability of subjects with reading and language deficiencies was discussed. Results indicated that CRS was successful in effecting changes in reading behavior of adult aphasics. Research investigating the effects of CRS on less severely disordered children was indicated. Moreover, comparing the effects of CRS with traditional strategies, and further examining the effects of CRS on oral language proficiency, as well as writing ability was suggested. The present study was designed to examine all of those unanswered questions. If the present study can show that an integrated approach to reading is more effective than a discrete components approach, not only

in changing reading behavior but also in effecting changes in oral language and writing behavior, then the theory of one integrated language system is supported.



## CHAPTER 3

### METHOD

The purpose of this study was to investigate the effect of Communicative Reading Strategies (CRS) on the reading, writing, and oral language proficiency of third graders with poor reading and language abilities. Participants were third graders whose reading and oral language scores were developmentally below grade level as determined by screening criteria. Children in the control and experimental groups were pre- and posttested with reading, writing, and oral language measures. Control children received basal instruction and experimental children received CRS instruction. This chapter describes selection of participating children, screening criteria, pre- and posttest measures, instruction, and analyses.

#### Subjects

Subjects were chosen from the third grade population of 72 students from a single elementary school in a large urban school district in Louisiana. The school was chosen because its student body consists of a mixed population of children from families of upper-middle, middle, and lower class socioeconomic levels as a result of extensive busing. The percentage of student participation in the free lunch program was used to identify socioeconomic composition of

the school chosen. Of 453 students in the school, 173 (38%) participated in either a free or reduced lunch program and 255 (56%) paid for their lunches.

There are two reasons why third grade was chosen for this study. First, children with normal language development should have reached the linguistic (symbolic) level of language by five to seven years of age (Arwood, 1983). All spring semester third graders are at least eight years old (in the state where the study was conducted). There is more assurance that the language and reading problems exhibited by the identified sample might be related to children's failures to develop language systems that are at level of maximum symbolic displacement, rather than to slight developmental lags in language development, as might be the case in a first or second grade population.

Second, the third grade curriculum at the school chosen for the study was characterized by a moving away from learning to read, with more emphasis placed on reading to learn. The few activities that were focused on learning to read were product oriented (e.g., isolated sight word recognition; identifying words with r-controlled vowels) rather than process oriented (e.g., learning the visual representation of a word through the process of making sense of the sentence). Most reading was done silently with the assumption that children were comprehending what they were reading and would be able to apply the newly acquired declarative information. For children who experience

difficulty with language and reading, the demands of such a program may be overwhelming and children may begin to lag further and further behind their more able counterparts. It was felt that a reading program emphasizing gaining meaning, such as CRS, would especially benefit such students. In particular, students with poorly developed language abilities would improve their reading when teachers provide support for students' use of their symbolic systems.

The third grade teachers at the elementary school selected for the study used basal reading materials for instruction (i.e., basal texts, vocabulary charts, worksheets, workbooks, frequent skill and comprehension tests, etc.). The daily reading lessons consisted of whole group teacher-directed instruction followed by independent seatwork activities. Basal stories were read silently and questions accompanying the stories (provided in the teacher's manual) were answered and briefly discussed by the whole group following silent reading. Writing (composition), spelling, and handwriting were taught as separate subjects in the curriculum, and were rarely integrated into the reading program.

Any students who were identified as learning disabled, vision impaired, hearing impaired, in need of speech or language therapy, or classified in any other way as qualifying for special education services were not included in the study. Five children were eliminated from

the study because they qualified for special services.

Students included in the study were identified using two screening procedures. Initial screening consisted of selecting students with either:

1. A Normal Curve Equivalent (NCE) of less than 50 on the Total Reading score of the Comprehensive Assessment Program (CAP) (Scott, Foresman & Company, 1980) administered in April of second grade (see Appendix B for reliability and validity information).

or

2. An NCE of less than 50 on the Total Language score of the CAP.

A pool of 35 students met at least one of these criteria (see Appendix C for CAP scores on these 35 students). Secondary screening consisted of identifying students who met both of the following two criteria:

1. An independent reading level below Grade 2 on the Basic Reading Inventory Form B (BRI) (Johns, 1988), that is, answering fewer than nine questions correctly and making more than one word recognition error on the Grade 2 passage.
2. A Spoken Language Quotient (SLQ) of less than 100 on the Test of Language Development-2 Intermediate (TOLD-2 I) (Hammill & Newcomer, 1988), for those third graders who were at least 8 1/2 years old, or a Spoken Language Quotient of less than 100 on the

Test of Language Development-2 Primary (TOLD-2 P)  
(Newcomer & Hammill, 1988), for those third graders  
who were younger than 8 1/2 years old.

Twenty eight students met both of these criteria (see Appendix D for BRI Form B independent reading levels and Appendix E for TOLD-2 I and TOLD-2 P Spoken Language Quotients on these 28 students), and served as subjects in the study.

The 28 subjects were assigned to the experimental or control conditions using a stratified random assignment based on reading group placement. Students were grouped homogeneously (low, middle, and high groups) across the third grade for reading instruction. Participating students were members of all three reading groups although there were differing proportions of students in the three reading groups. The stratified random selection was used in order to achieve an equal proportion of students in low, middle and high reading groups in the control and experimental groups. Twenty-one percent, thirty-six percent, and forty-three percent of the experimental group participated in the high, middle, and low reading groups, respectively. Fourteen percent, thirty-six percent, and fifty percent of the control group participated in the high, middle, and low reading groups, respectively.

The experimental and control groups were also equated for racial composition. Seventy-nine percent and twenty-

one percent of the experimental group were black and white, respectively. Seventy-one percent and twenty-nine percent of the control group were black and white, respectively.

Also, the experimental and control groups were equated for gender composition. Fifty-seven percent and forty-three percent of the experimental group were male and female, respectively. Sixty-four percent and thirty-six percent of the control group were male and female respectively.

Analyses of variance on the BRI independent reading levels and the TOLD-2 Spoken Language Quotients were used to ensure that the random procedures produced equal groups. Results of the analyses showed that there were no significant differences between the two groups on the BRI independent reading levels,  $F(1, 26) = .02, p < .878$ . Results also revealed no significant differences between the two groups on the TOLD-2 Spoken Language Quotients,  $F(1, 26) = .30, p < .588$ .

#### Assessment Materials

Assessment materials for the study consisted of two screening measures (BRI and TOLD-2), and five pre- and posttest measures (BRI, Test of Inferencing Ability, Retelling Task, Norris Story Telling Task, and the Test of Written Language-2 (TOWL-2) Spontaneous Writing subtests. This section will describe these measures.

### Basic Reading Inventory (BRI)

The BRI (Johns, 1988) is an individually administered informal reading test composed of a series of graded word lists and 10 graded 100-word passages ranging from preprimer to eighth grade level. Three forms are provided; Form A and C are recommended for pre- and posttest evaluations of oral reading ability, and Form B for evaluation of silent reading. Only the graded passages portion of the BRI were used in the study. Form B was used for secondary screening of independent reading levels and Forms A and C were used for pre- and posttesting.

Ten questions of five types (one main idea, five facts, two inferences, one evaluation, and one vocabulary question) accompany each passage. A comprehension score is obtained for each passage by determining the number of correct answers (suggested answers are provided) to the questions following each passage.

A word recognition score is determined for each passage by recording all significant miscues (substitutions, omissions, insertions, reversals, and repetitions) that affect meaning, and then subtracting that number from 100 to obtain a word recognition score.

An independent, instructional, and frustrational reading level can be determined using the comprehension and word recognition scores. Table 1 shows the criteria used to determine these levels.

Table 1

Range of Word Recognition Scores and Comprehension Scores  
for Determination of Reading Levels

Level	Word Recognition	Comprehension
Independent	99-100	9-10
Instructional	95-98	7.5-8.5
Frustrational	0-94	0-7.0



### Modifications to the BRI

Pilot testing suggested that the inference and evaluation questions accompanying the Grade 4 passage of Form C ("Championship Baseball") were especially difficult for children without prior knowledge of the game of baseball. Therefore, the Grade 4 passage of Form B ("The Plant World") was substituted on Form C. Because this passage was actually on a third grade readability level (Fry, 1977), minor changes in length of sentences were made in order to achieve a fourth grade readability. (See Appendix F for the substituted and revised Grade 4 passage of Form B.)

Because the Preprimer and Grade 4 passages of Form A had a readability level (Fry, 1977) of Primer and Grade 3, respectively, minor revisions in sentence length were made in these passages to conform to appropriate readability levels. (See Appendix G for the revised Preprimer and Grade 4 passages of Form A.)

The author of the BRI did not report alternate-form reliability coefficients for the fourth edition used in this study. To date, there have been no publications providing this information. However, Helgren-Lempesis and Mangrum (1986) reported an alternate form reliability of .64, .73, and .73 for the independent, instructional, and frustrational levels of the BRI, third edition (1981), respectively.

Test of Language Development-2 Intermediate and  
Primary (TOLD-2 I and TOLD-2 P)

Two versions of the TOLD-2 were used in the study. One version of this test is normed for children older than 8 1/2 years old and the other version is normed for children less than 8 1/2. The children in the study ranged from 8 years to 10 years of age; thus, the two versions were required.

The TOLD-2 I (Hammill & Newcomer, 1988) is a standardized norm-referenced test used to identify children (at least 8 1/2 years of age) who are significantly below their peers in spoken language proficiency. It measures various language features (semantics and syntax) and systems (speaking and listening). It includes six subtests.

The Sentence Combining subtest measures the ability to combine several short simple sentences into one complex or compound sentence while retaining all the meaning expressed in the short sentences. To accomplish this task, the child has to understand how phrases, embedded clauses, transformations, and adjectives are used to construct sentences.

The Vocabulary subtest measures the ability to recognize word synonyms and antonyms, while the Word Ordering subtest measures the ability to construct a meaningful sentence from a set of words presented orally in a random sequence. The Generals subtest measures the ability to identify the abstract relationship existing among a set of spoken words.

The Grammatical Comprehension subtest measures the ability to recognize ungrammatical spoken language while the Malapropisms subtest measures the ability to recognize when a word has been incorrectly used in place of a word that sounds like it.

These subtests are contrived and do not measure a person's ability to use language functionally in a pragmatic sense. However, according to the authors, they have been shown to differentiate between groups of children who were identified as being deficient in language and groups known to possess normal language (Hammill & Newcomer, 1988).

The Spoken Language Quotient (SLQ) is a composite of all six subtests on this instrument. The range of possible scores for the SLQ is 38 to 162. This score was used for screening purposes only.

The norms for the TOLD-2 I are based on the test performance of 1,214 children residing in 21 states. The internal consistency reliability coefficient is .97, stability reliability is .96, and criterion related validity (related to the Test of Adolescent Language) is .83, for the SLQ.

The TOLD-2 P (Newcomer & Hammill, 1988) is a standardized norm-referenced test used to identify children (younger than 8 1/2 years old) who have difficulty communicating. It measures three features (semantics, syntax, and phonology) and two systems (listening and speaking) of language through seven subtests.

The Picture Vocabulary subtest measures the extent to which the child understands the meanings associated with spoken English words, while the Oral Vocabulary subtest measures a child's ability to give oral definitions to common English words. The Grammatic Understanding subtest assesses the child's ability to comprehend the meaning of sentences, and the Sentence Imitation subtest is designed to measure aspects of the child's ability to produce correct English sentences.

The child's ability to recognize, understand, and use common English morphological forms is assessed by the Grammatic Completion subtest, and the child's ability to recognize the differences in significant speech sounds is measured by the Word Discrimination subtest. Finally, the Word Articulation subtest assesses the child's ability to utter important English speech sounds.

Like the TOLD-2 I subtests, the TOLD-2 P subtests do not measure the ability of children to use language in natural situations, but according to the authors, they have been shown to distinguish between children who are known to be normal in spoken language and those known to be poor in spoken language (Newcomer & Hammill, 1988).

The Spoken Language Quotient, a composite of all seven subtests on this instrument was used for screening purposes only. The range of possible scores for the Spoken Language Quotient is 37 to 163.

The norms for the TOLD-2 P are based on the test

performance of 2,436 children residing in 29 states. The internal consistency reliability coefficient is .97, stability reliability is .96, and criterion related validity (related to the Test for Auditory Comprehension of Language) is .79, for the Spoken Language Quotient.

Because the quotients on both the TOLD-2 I and the TOLD-2 P are derived by adding the appropriate subtest standard scores and converting the sum to a quotient, the Spoken Language Quotient on the two tests is comparable.

#### The Test of Inferencing Ability

The Test of Inferencing Ability was developed by the researcher. It consists of two short stories, "Lights Out" (Rivera, 1989) (Form A) and "Chipmunk Crossing" (Herther, 1989) (Form B) selected from the 2<sup>nd</sup> basal reader (What Do I See?) of the same series used for instruction in the study (Scott, Foresman, & Company, 1989a). Thirteen questions requiring inferential thinking were written for each story. Forms A and B were used for pre- and posttesting. The children were asked to read small portions of the story orally and then answer the orally presented questions related to each portion. See Appendix H for the stories and questions used. The range of possible scores is 0-52.

#### Development of the Test of Inferencing Ability

Inferring information that is pertinent to comprehension

but not explicitly stated in the text is particularly troublesome for children with language disorders. Because many of the principles of CRS are concerned with clarifying implicit messages conveyed by the author, the researcher was specifically interested in any shifts in inferencing ability that may occur between pre- and posttesting.

Although there are many published reading inventories that assess inferencing ability as one component of comprehension, there were none available that measured inferencing ability as a separate skill. Therefore, the Test of Inferencing Ability was developed. Stories on a 2<sup>nd</sup> (rather than a 3<sup>rd</sup>) level were chosen in order to eliminate the possibility of word recognition errors interfering with the measurement of inferencing ability. The researcher formulated 20 and 18 questions for Form A and Form B, respectively. These stories and questions were presented to a panel of experts (doctoral students in Reading), and they were asked to judge each question according to how effectively it would assess inferencing ability. Each question was rated on the following scale adapted from Hansen and Pearson (1983), a score of four representing the best inference questions:

- 4 = In order to answer this question, the student would have to integrate both prior knowledge (world knowledge) and information gained from reading the text itself.

- 3 = In order to answer this question, the student would have to integrate textual information provided in more than one sentence of the text, but would not have to activate any prior knowledge.
- 2 = The student could answer this question by simply activating prior knowledge, without having read the text at all.
- 1 = The answer to this question is explicitly stated in one sentence of the text, and does not require any inferencing at all.

Also, the instrument was administered to each child participating in the pilot study (see Pilot Study, this chapter, for selection procedure).

Those questions remaining in the final version of the test met the following criteria:

- 1) Received at least a mean of three points from the panel of experts  
or  
Received at least a score of three points from half of the panel.
- 2) Were answered incorrectly by at least two children in the pilot study.
- 3) Were answered correctly by at least two children in the pilot study.

The preliminary version contained 14 and 13 questions on Form A and Form B, respectively. The question receiving the fewest points and the least spread of responses from

the pilot study was eliminated from Form A, resulting in each form containing 13 questions.

The alternate form reliability coefficient established from administering the test to the 28 children in the sample is .45,  $p < .02$ .

### Norris Story Telling Task

The Norris Story Telling Task (Norris, 1985a) was designed to assess children's oral language, in particular their ability to communicate through narrative discourse. It consists of two forms, A and B. The task stimuli consist of a series of seven photographs depicting a story sequence with events leading to a highpoint and conclusion. See Appendix I for the pictures used. Children were asked to tell a story that fit the pictures.

Children's storytellings were judged according to the propositions provided. The propositions considered essential to the storytelling were outlined according to conventions adapted from van Dijk and Kintsch (1983). A proposition includes a predicate, which is a conceptual unit that establishes some sort of relationship or property between other elements, and one or more arguments that are the elements that are set in relation to one another by the predicate. For example, an agent (argument) such as "Jimmy" becomes related to an object (argument) such as "ice cream" through a predication such as "obtained". Eight propositions were considered to be essential to a



complete retelling of the story, including the seven propositions pictorially represented and the additional verbally provided information that Jimmy (Form A)/Tommy (Form B) was afraid of cats (Form A)/dogs (Form B):

1) Jimmy/Tommy got ice cream from the refrigerator, 2) His brother/friend made ice cream cones, 3) They went outside (Form A)/ to the playroom (Form B), 4) The cat/dog came or They saw the cat/dog, 5) Jimmy/Tommy was scared of cats/dogs, 6) Jimmy/Tommy dropped his ice cream, 7) The cat/dog ate the ice cream, and 8) Jimmy/Tommy became mad.

The stories were evaluated for the presence of 14 pragmatic errors. These errors were designed to identify difficulties that occurred in both the overall structure of the stories (across sentences), and in the linguistic expression of the propositions (within sentences).

One measure of overall structure was the absence of significant bits of information. Significant bits represented elements such as actors of each proposition (e.g., "Jimmy"), locations (e.g., "outside"), or objects necessary to the interpretation of each proposition (e.g., "ice cream cone"). Seventeen significant bits associated with the eight propositions were considered essential to the story telling: 1) Jimmy/Tommy - ice cream - refrigerator, 2) brother/friend - ice cream cones, 3) they - outside, 4) boys - cat/dog, 5) Jimmy/Tommy - cats/dogs, 6) Jimmy/Tommy - ice cream, 7) cat/dog - ice cream, and 8)

Jimmy/Tommy - mad. Thus, this pragmatic variable was scored as a ratio of the number of missing significant bits over a possible seventeen.

Another measure of overall structure was related to adequacy of the story structure. An indication of a well formed story is the presence of a highpoint and an evaluation or conclusion (Stein & Glenn, cited in Freedle, 1978). Absence of either of these story elements was scored as an omission of Purpose. In order to receive credit for these elements they must have occurred at an appropriate point in the story (e.g., the fact that the boy was scared must have been stated at the point in the story where the boy saw the cat and dropped his ice cream, and his anger must have been stated relative to his loss of the ice cream). This pragmatic variable was scored as a ratio of the purpose elements omitted over two (highpoint and conclusion).

Many of the pragmatic variables were measures of linguistic expression. One example was the ability to use relational terms to establish causal or conditional ties between propositions. Relational errors were counted at the highpoint and conclusion if the relationships were not marked linguistically (i.e., Jimmy saw the cat and Jimmy dropped his ice cream) because while the events were reported in an order appropriate to story structure, they did not directly state the important causal connection. Errors of relation could have occurred at any point in the

story where relational terms were produced by the child and so this pragmatic variable was scored as a ratio of the number of relational errors over the number attempted, with two considered obligatory to the story.

The remaining pragmatic variables were scored as a ratio of their occurrences over the number of propositions that the child produced in telling the stories. The complete list of pragmatic variables used to score the stories were: 1) the inability to provide significant bits of information, 2) the use of nonspecific language, 3) repetition of a proposition, 4) the need for prompts or reinstruction, 5) message inaccuracy, 6) semantic inaccuracy, 7) lack of purpose, 8) failure to maintain theme or topic, 9) interjection of nontextual information, 10) false starts, 11) internal corrections, 12) linguistic nonfluencies, 13) difficulty structuring narration, and 14) failure to communicate propositional relationships. Total error ratios were calculated on Forms A and B for pre- and posttest scores. The alternate form reliability coefficient established by the researcher using the 28 subjects in the sample on pre- and posttest is .18.

#### Test of Written Language-2 (TOWL-2)

The TOWL-2 (Hammill & Larsen, 1988) is a standardized norm-referenced test designed to estimate a student's general writing proficiency. Although the test consists of contrived as well as spontaneous writing subtests, only the

results of the Spontaneous Writing Quotient (SWQ) (a composite of five subtest scores) and the results of one of the subtests, Thematic Maturity, were used for the purposes of this study. The Spontaneous Writing Quotient reflects a student's ability to write meaningfully in everyday life or school situations and requires an integrated grasp of components, rather than mere competence in components when they are measured in isolation. Therefore, it is a useful measure of writing proficiency.

Forms A and B were used for pre- and posttesting, as suggested by the authors. The student was asked to write a story about a picture, and the story was scored according to thematic maturity, contextual vocabulary, syntactic maturity, contextual spelling, and contextual style. The range of scores possible for the Spontaneous Writing Quotient is 38 to 161.

The Thematic Maturity subtest measures the ability to write in a logical, organized fashion, to generate a specified theme, to develop a character's personality, and to incorporate other compositional skills. The results of this particular subtest were investigated because a child's score reflects the ability to establish intersentential relationships, or those integral to the overall structure of the story. The other subtests' results included in the overall Spontaneous Writing Quotient are more reflective of word level (contextual vocabulary and contextual spelling), sentence level (syntactic maturity), and form (contextual

style) abilities. The range of possible scores for the Thematic Maturity subtest is 0 to 30.

The Contextual Vocabulary subtest measures the ability to use mature words that represent a variety of parts of speech. The Syntactic Maturity subtest measures the ability to use complex sentences comprised of introductory and concluding clauses, embedded phrases, and adjective sequences. The Contextual Spelling subtest measures the ability to spell words properly when they appear in a self-generated composition. The Contextual Style subtest measures the ability to apply the rules governing punctuation of sentences and capitalization of words when they appear in a written composition.

The norms for this instrument are based on the writing performance of 2,216 children residing in 16 states. The internal consistency coefficients for the Spontaneous Writing Quotient are .94 and .93 for Form A and Form B, respectively. The internal consistency coefficients for the Thematic Maturity subtest are .75 and .81 for Form A and Form B, respectively. Interscorer reliabilities for the Thematic Maturity subtest are .94 and .92 for Form A and Form B, respectively. The alternate form reliability coefficients for the Thematic Maturity subtest and the Spontaneous Writing Quotient are .68 and .78, respectively. Overall reliability related to three sources of test error (interscorer, content sampling, and time sampling) averaged

for Forms A and B is .94 for the Spontaneous Writing Quotient, and .88 for the Thematic Maturity subtest.

### Retelling Task

The Retelling Task (researcher developed) utilized the Grade 3 passage of the BRI Forms A and C. Each student was asked to retell the story read orally. Ten propositions on Form A were considered essential to a complete retelling of the story: 1) The bees were making honey all day long, 2) The person was sleeping in the cabin/on the cot at night, 3) The person heard a noise at the window, 4) The person moved toward the window, 5) The person saw a shadow, 6) The shadow scared the person, 7) The person knocked on the window, 8) The shadow moved away, 9) They found bear tracks the next day, and 10) The bear wanted the honey in the attic (of the cabin).

Twenty four significant bits associated with the ten propositions were considered essential to a complete retelling of the story on Form A: 1) bees - honey - all day long, 2) person - cabin/cot - night, 3) person - noise, 4) person - window, 5) person - shadow, 6) shadow - person, 7) person - window, 8) shadow - back/away, 9) they - bear tracks - next day, and 10) bear - honey - attic. Three relationships on Form A were considered essential to a complete retelling of the story: 1) The person went to the window because the person heard a noise, 2) The person knocked on the window because the shadow scared the person, and 3) The shadow moved away because the shadow heard the

knocking. Two purposes were considered essential to a complete story retelling on Form A, one occurring at the high point of the story, and the other at the evaluation: 1) The person knocked on the window because the shadow scared the person, and 2) The bear came because he wanted the honey the bees were making in the attic. As on the Norris Story Telling Task, a child could receive credit for providing the essential purposes, without providing the linguistic causal relationship terms.

Nine propositions on Form B were considered to be essential to a complete retelling of the story: 1) Sally wanted a dog, 2) Sally and her parents went to the pet shop, 3) Sally and her parents saw a poodle, 4) Sally petted the poodle, 5) The poodle sat up and begged, 6) The poodle looked cute, 7) Sally's parents laughed at the poodle, 8) Sally's parents couldn't resist such a cute dog, 9) Sally's parents bought the dog. Seventeen significant bits associated with the nine propositions were considered essential to a complete retelling of the story: 1) Sally - dog, 2) Sally and parents - pet shop, 3) Sally and parents - poodle, 4) Sally - poodle, 5) poodle, 6) puppy - cute, 7) parents - puppy, 8) parents - puppy, and 9) parents - puppy.

Three relationships were considered essential to a complete retelling: 1) Sally and her parents went to the pet shop because Sally wanted a dog, 2) The dog sat up and

begged because Sally petted it, and 3) Sally's parents bought the dog because they couldn't resist such a cute dog. Two purposes were considered essential to a complete retelling of the story, one occurring at the high point of the story, and the other at the evaluation: 1) Sally and her parents went to the pet shop because Sally wanted a dog, and 2) Sally's parents bought the dog because it was so cute. As on Form A, a child could receive credit for providing the essential purposes of the story, and not receive credit for explicitly stated relationships, as long as the purpose could be inferred from sequential propositions.

Errors were detected on the same 14 pragmatic variables used in the Norris Story Telling Task (Norris, 1985a): 1) the inability to provide significant bits of information, 2) the use of nonspecific language, 3) repetition of a proposition, 4) the need for prompts or reinstruction, 5) message inaccuracy, 6) semantic inaccuracy, 7) lack of purpose, 8) failure to maintain theme or topic, 9) interjection of nontextual information, 10) false starts, 11) internal corrections, 12) linguistic nonfluencies, 13) difficulty structuring narration, and 14) failure to communicate propositional relationships. Total error ratio scores were calculated on Forms A and B for pre- and posttest scores. The alternate form reliability coefficient established by the researcher is .11.



## Instructional Materials

### Scott, Foresman Basal Reading Materials

The Scott, Foresman (1989b) 3<sup>1</sup> (City Spaces) basal reading materials were used with the experimental as well as the control group. Four stories were selected from the reader based on their literary value and readability level: "Just the Thing for Geraldine" (Conford, 1989), "Fiona's Flea" (Keller, 1989), "Eliza's Daddy" (Thomas, 1989), and "The Origami Truce" (McDonnell, 1989). One story was used for each week of instruction.

The experimental group received CRS instruction with the four selected stories, using only overhead transparencies of the pupil's edition of the text. Because the successful implementation of CRS depends upon the facilitator pointing back and forth between and among words of the text while providing information about the message conveyed by the author, overhead transparencies are an ideal medium through which instruction to small groups can be accomplished.

The control group received traditional basal reader instruction, employing all materials (pupils' texts, charts, workbooks, worksheets, etc.) suggested in the teacher's manual for the selected stories. This series was chosen because it is a newer edition of the same series used in the school chosen for the study, and it contains a varied selection of good children's literature. Because these children must contend with third grade materials in the

reading groups (to meet promotion requirements) as well as in content area instruction, the researcher decided to use first semester third grade materials.

### Procedure

#### Pilot Study

Ten children were randomly selected from all third graders at the chosen elementary school who scored between 50 and 60 on the Normal Curve Equivalent in reading or language on the CAP (administered at the end of second grade). These children were chosen because they are the most similar in performance on the CAP to the children who were actually included in the secondary screening procedures (those who scored below 50 on the Normal Curve Equivalent of the CAP in reading or language).

The BRI Form A or C, the Test of Inferencing Ability Forms A and B, the Norris Story Telling Task Forms A and B, and the Retelling Task Forms A and B, were administered to each of the 10 children participating in the pilot study, in order to determine whether modifications were indicated for any of these instruments.

The pilot testing suggested several revisions on the BRI and the Test of Inferencing Ability. These revisions are described in the Assessment Materials section of this chapter. No modifications on the Norris Story Telling Task or the Retelling Task were indicated.

Because the researcher was an experienced elementary

school teacher who had used traditional basal instruction for many years, it was decided that piloting of instructional procedures for the control group was unnecessary. Also, the researcher had piloted CRS (with guidance from the developer) with a small group for 14 weeks during the spring semester preceding the actual study. Therefore, CRS intervention was not piloted again immediately preceding the actual study.

### The Study

The duration of the study was eight weeks. Secondary screening and pretesting took place during Week One and Week Two. Four weeks (20 days) of instruction occurred during Weeks Three, Four, Five, and Six, and posttesting was conducted during Weeks Seven and Eight. All testing sessions were audiotaped (and transcribed for the Norris Story Telling Task and the Retelling Task). For all pretest measures half of the children were randomly assigned Form A and the other half Form B (or Form C for the BRI). For all posttest measures the children received the alternate form.

### Secondary Screening

All students meeting the criteria established for the initial screening (a Normal Curve Equivalent of less than 50 on either the Total Reading Score or the Total Language Score of the CAP) were administered the BRI, Form B, up through the Grade 2 passage. The subjects were asked to read each passage orally, and then answer the 10 questions

accompanying each passage. Any child making more than one word recognition error, or answering more than one comprehension question incorrectly on the Grade 2 passage was then administered the TOLD-2 I or the TOLD-2 P. Administration procedures suggested by the authors were followed for each subtest of the TOLD-2 I or TOLD-2 P. Those children scoring below 100 on the Spoken Language Quotient of the TOLD-2 I or TOLD-2 P were included in the sample.

Children were then randomly assigned to the experimental or control group with stratifications for reading group placement, race, and gender in order to achieve group equivalence. An ANOVA was performed using the BRI Form B independent reading level score and the TOLD-2 Spoken Language Quotient for each child. No significant differences were found between the control and experimental groups.

#### Pre- and Posttesting

Grade 3 and Grade 4 passages on the BRI Forms A or C were administered to obtain a comprehension, word recognition, and instructional reading level for each subject included in the sample. Children were asked to read the passages orally. After the reading of the Grade 3 passage, each child was asked to retell the story (Retelling Task) to a puppet. The administration procedures described in Appendix J were followed for the

Retelling Task. Then the comprehension questions accompanying the Grade 3 passage on the BRI were asked and answers were recorded. The same procedures were followed for the Grade 4 passage reading, except there was no retelling requested.

If an instructional level was not obtained from the reading of the Grade 3 and Grade 4 passages, the child was asked to read the Grade 2 passage, and then the Grade 1 passage, proceeding to progressively less difficult passages until an instructional level could be determined.

Next, all students were administered the Norris Story Telling Task. Procedures for administration of the Norris Story Telling Task are described in Appendix K. The TOWL-2 Spontaneous Writing subtests were administered according to the authors' suggestions.

The Test of Inferencing Ability was administered last. Each child was asked to read the selected basal passages orally and then answer the 13 inferential questions, which were presented and answered orally.

### Scoring

Intrascorer reliability. A stability coefficient for intrascorer reliability was obtained using a test-retest procedure. All of the measures (except the Norris Story Telling Task, and the Retelling Task, [see Reliability exceptions, following interscorer reliability for further explanation]) were initially scored by the researcher

according to the scoring guidelines. Fourteen days following the initial scoring, ten (18%) of the 56 pre- and posttests for each measure (except only five [18%] of the 28 BRI Form B tests used in secondary screening to determine independent reading level) were randomly selected and rescored. Overall intrascorer reliability coefficients for the randomly selected individual pre- and posttests will be reported with scoring procedures for each measure.

Intrascorer reliability coefficients were not established for the TOLD-2, the Retelling Task, or the Norris Story Telling Task. See Reliability exceptions, following interscorer reliability for further explanation.

Interscorer reliability. The reliability of the scoring techniques across scorers was also tested. Two scorers participated in a four hour training session, during which time the scoring procedures for the BRI, the Test of Inferencing Ability, and the TOWL-2 were defined and examples from the tasks were shown. Two tests (one pre- and one posttest) for each measure were scored jointly by the researcher and the two scorers during this training session. One of the 56 pre- and posttests for each measure was then scored independently by the trained scorers. Feedback was provided which clarified any points of controversy. Finally, seven (13%) of the 56 pre- and posttests for each measure (except only four [14%] of the BRI Form B, used to determine independent reading level during secondary

screening) were randomly selected and scored by the trained scorers. These scorings were used to calculate interscorer reliability. Overall interscorer reliability coefficients for the randomly selected individual pre- and posttests will be reported with the scoring procedures for each measure. Interscorer reliability coefficients were not established for the TOLD-2. See Reliability exceptions in the next section for further explanation.

Reliability exceptions. The scoring procedures for the TOLD-2 are very objective and only the exact answers included on the examiner's record form can be counted as correct. Therefore, it was decided that the establishment of interscorer or intrascorer reliability for this measure was unnecessary.

The scoring procedures for the Norris Story Telling Task and the Retelling Task are identical, and extremely difficult. They require a thorough understanding of propositional and pragmatic criteria analysis. Therefore, the developer of the Norris Story Telling Task (Norris) scored all 56 of the pre- and posttests for the Norris Story Telling Task and the Retelling Task. She then trained the researcher to score the tasks during a three hour training session. Finally, 10 (18%) of the 56 pre- and posttests for the Norris Story Telling Task and the Retelling Task were randomly selected. These 10 tests were scored by the researcher, and interscorer reliability coefficients were calculated. These coefficients will be

reported with the scoring procedures for these tasks.

Secondary screening scores. The Grade 2 passage of the BRI (Form B) was scored by counting the number of word recognition errors and question errors. The criteria for scoring word recognition errors are those suggested by the author (Johns, 1988, p. 18). The criteria for scoring comprehension errors are those following each passage question, suggested by the author (Johns, 1988). An independent reading level was established for each child by using the criteria provided by the author. The range of actual scores on the independent reading level was below preprimer to first grade. The overall intrascorer reliability coefficient was 1.00. The overall interscorer reliability coefficient between the researcher and the first scorer was 1.00, and between the researcher and the second scorer, .75.

The Spoken Language Quotients for the TOLD-2 I and the TOLD-2 P were calculated by first obtaining a raw score on each subtest by counting the the number of correct responses, following the authors' guidelines for acceptable answers (Hammill & Newcomer, 1988; Newcomer & Hammill, 1988). Then each raw score was converted to a standard score, using the norm tables provided by the authors. Finally, the standard scores were summed, and the Spoken Language Quotient was obtained from the norm tables, based on the summed standard score. The range of actual scores



was 60 to 94 on the TOLD-2 I and 84 to 89 on the TOLD-2 P.

Pre- and posttest scores. The instructional reading level on the BRI (Form A or C) was determined for each student based on the subject's comprehension and word recognition performance across the reading of all passages (preprimer to highest grade level, but no less than Grade 4). The criteria for determining the instructional level was that suggested by the author (Johns, 1980). The range of actual scores on instructional reading level was below preprimer to Grade 3 on the pretest, and primer to Grade 4 on the posttest. The overall intrascorer reliability was .97. The overall interscorer reliability coefficient between the researcher and the first scorer was .74, and between the researcher and the second scorer, .86.

A comprehension and word recognition score was calculated for the Grade 3 and Grade 4 passages combined on the BRI using the author's guidelines. The maximum score for comprehension and word recognition was 20 and 200, respectively. The actual scores on comprehension ranged from 7.5 to 16.5 on the pretest and from 8 to 19 on the posttest. The overall intrascorer reliability coefficient was .99. The overall interscorer reliability coefficient between the researcher and the first scorer was .85, and between the researcher and the second scorer, .94.

The actual scores on word recognition ranged from 160 to 198 on the pretest, and from 178 to 199 on the posttest. The overall intrascorer reliability coefficient was .96.

The overall interscorer reliability coefficient was .89 between the researcher and the first scorer, and .90 between the researcher and the second scorer.

The score for the Retelling Task was determined by using the criteria described in Appendix L. The score sheet was marked by placing the number of the sentence from the subject's story next to one of the propositions outlined for the idealized story. A checkmark was placed within each appropriate category (pragmatic variable) on the error grid for all errors contained within the subject's proposition. Propositions produced in addition to the number required were numbered and scored according to the pragmatic errors. Error ratios were calculated by finding the total number of errors made for each pragmatic variable per total number of propositions produced within the subjects retelling. (See Appendix M for the scoring grid.)

The actual range of scores on the Retelling Task was 6.38 to 1.43 on the pretest and 5.55 to 1.5 on the posttest. The overall interscorer reliability between the researcher and the developer was .92.

The score on the Test of Inferencing Ability was determined by using a five-point scale adapted from Hansen and Pearson (1983) to weight the quality of responses to the 13 inferential questions:

4 = Correct answer: The answer reflects that an inference was drawn between

textual information and prior knowledge.

3 = Correct answer: The inference relies too heavily on either text or prior knowledge, rather than a balanced integration of the two. Or, the answer was incomplete.

2 = Incorrect answer: The answer is related to the question, but totally omits reference to either prior knowledge or text; that is no inference was drawn, or an incorrect inference was drawn.

1 = Incorrect answer: Copying from other parts of the text, or a wild guess.

Ø = No response.

The maximum score possible was 52. The range of actual scores was 14 to 49 on the pretest and 24 to 47 on the posttest. The overall intrascorer reliability coefficient was .93. The overall interscorer reliability coefficient between the researcher and the first scorer was .70, and between the researcher and the second scorer was .88.

The Norris Story Telling Task was scored in the same way as the Retelling Task. The criteria in Appendix N was used for this purpose. The score sheet was marked by placing the number of the sentence from the subject's story next to one of the propositions outlined for the idealized

story. A checkmark was placed within each appropriate category (pragmatic variable) on the error grid for all errors contained within the subject's proposition.

Propositions produced in addition to the number required were numbered and scored according to the pragmatic errors. Error ratios were calculated by finding the total number of errors made for each pragmatic variable per total number of propositions produced within the subject's story. The scoring grid can be found in Appendix O.

The actual range of scores was 5.91 to 1.32 for the pretest and 5.91 to 1.31 for the posttest. The overall interscorer reliability coefficient was .89 between the researcher and the developer of the Norris Story Telling Task.

The Spontaneous Writing Quotient on the TOWL-2 was calculated according to the guidelines provided by the authors (Hammill & Larsen, 1988). A raw score was determined for each of the five Spontaneous Writing subtests: thematic maturity, contextual spelling, contextual style, contextual vocabulary, and syntactic maturity. Each raw score was converted to a standard score using the norm tables provided by the authors. Finally, all standard scores were summed and converted to a Spontaneous Writing quotient, using the norm tables provided by the authors. The range of actual scores was 66 to 108 on the pretest and 70 to 122 on the posttest.

The overall intrascorer reliability coefficient was .98. The overall interscorer reliability coefficient was .97 between the researcher and the first scorer, and .99 between the researcher and the second scorer.

The standard score calculated for the Thematic Maturity subtest was used for that dependent variable. The range of actual scores was 4 to 15 on the pretest and 4 to 18 on the posttest. The overall intrascorer reliability coefficient was .96. The overall interscorer reliability coefficient was .91 between the researcher and the first scorer, and .95 between the researcher and the second scorer.

#### Instruction

The control and experimental groups were randomly divided into three subgroups, each consisting of 4-5 students. Communicative Reading Strategies require extensive teacher-student interaction, best supported by small group instruction. Therefore, both experimental and control groups were divided to ensure the needed teacher-student interaction patterns.

The experimental group received CRS instruction for four weeks (20 days) using the four selected basal reader stories (one per week). The control group received traditional basal reader instruction using the same four selected stories, and following the suggested procedures in the teacher's manual. Instructional sessions were counterbalanced across time periods such that all groups

received the same number of morning and afternoon periods of instruction. (See Appendix P for the schedule of instruction).

The principal of the elementary school was asked to observe instruction at random. He was provided with 10 copies of a checklist containing descriptions of the activities the children might be involved in and a scale to rate the performance of the researcher and the level of participation of the children. This checklist and the mean score for each observed behavior can be found in Appendix Q.

Communicative Reading Strategies. Communicative Reading Strategies (CRS) (Norris, 1985b, 1988) are based on the idea that the written text is a means of communication between the author and the reader. If the reader is unable to process the language of the author at the level of complexity at which it is presented (Bruce, 1981), then the facilitator (in this case, the researcher) serves as a liason between the author and the reader to repair communication breakdowns. If the semantic organization of a child's language system is not refined enough to process the information in the manner in which it is presented, then comprehension is lost, and the whole integrated language system is affected. The facilitator adheres to the following principles in order to repair communication breakdowns, thereby enhancing comprehension, word

recognition, oral language proficiency, and all other meaningful aspects of the integrated language system: 1) providing preparatory sets, 2) reacting to the truth value of response, 3) establishing cohesion, 4) reducing complexity, 5) establishing transitions, 6) clarifying implicatures, 7) clarifying metaphors and idioms, and 8) using visual cues when necessary. (See Appendix A for a detailed explanation of each of these principles.)

Traditional basal reader instruction. The following weekly procedures were used with the control group for each of the four stories selected, according to the suggested guidelines provided in the teacher's manual (See Appendix R for a detailed description.)

Day One:	Preparing to Read
Day Two:	Word Study Skills and Vocabulary
Day Three and Four:	Reading the Selection
Day Five:	Comprehension Check and Review

#### Analyses

A 2 (time, pretest and posttest) X 2 (group, experimental and control) MANOVA was used in the study, to determine if there was an interaction effect between time and group. The first independent variable (time) was a repeated measure. The eight dependent measures were: 1) BRI instructional level, 2) BRI comprehension score, 3) BRI word recognition score, 4) weighted score on the Test of Inferencing Ability, 5) Retelling Task error ratio score,

6) Norris Story Telling Task error ratio score, 7) TOWL-2 Spontaneous Writing Quotient, and 8) TOWL-2 Thematic Maturity subtest standard score. Follow-up univariate analyses and post hoc analyses were used to examine further effects on each dependent variable.



## CHAPTER 4

### RESULTS

The purpose of this study was to examine the efficacy of Communicative Reading Strategies as an alternative approach to reading instruction for children with reading and language disabilities. Twenty-eight third graders participated in the study. They scored below grade level on measures of reading and oral language. The children were randomly assigned to one of two groups (control and experimental). Control children received traditional basal reading instruction and experimental children received Communicative Reading Strategy (CRS) instruction for four weeks (20 days). Pre- and posttests measures of reading, oral language, and writing proficiency were administered to both groups.

A 2 (time, pretest and posttest) X 2 (group, experimental and control) MANOVA was conducted. The first independent measure (time) was a repeated measure. Follow-up univariate analyses and post hoc (Tukey's Studentized Range) analyses were used to examine further effects on each dependent measure. This chapter will describe the results of pre- and posttesting on the five reading, one oral language, and two writing measures.

Results will be discussed in three sections. The first section will concern question one and hypotheses one

through five. Question one examined the effect of Communicative Reading Strategies on the reading ability of third grade poor readers. Hypothesis one predicted that there would be a significant interaction between the mean number of comprehension questions answered correctly about the third and fourth grade passages of the Basic Reading Inventory (Johns, 1988) at pre- and posttest by the basal and CRS group.

Hypothesis two predicted that there would be a significant interaction between the mean number of words identified correctly in the third and fourth grade passages of the Basic Reading Inventory (Johns, 1988) at pre- and posttest by the basal and CRS group. Hypothesis three predicted that there would be a significant interaction between the mean grade levels identified as the instructional reading level on the Basic Reading Inventory (Johns, 1988) at pre- and posttest by the basal and CRS group.

Hypothesis four predicted that there would be a significant interaction between the mean weighted scores obtained from an inferencing task at pre- and posttest by the basal and CRS group. Hypothesis five predicted that there would be a significant interaction between the mean error ratio scores obtained on an oral retelling of the third grade passage of the Basic Reading Inventory (Johns, 1988) at pre- and posttest by the basal and CRS group.

The second section will concern question two and

hypothesis six. Question two examined the effect of Communicative Reading Strategies on the oral language ability of third grade poor readers. Hypothesis six predicted that there would be a significant interaction between the mean error ratio scores on the Norris Story Telling Task (Norris, 1985a) at pre- and posttest by the basal and CRS group.

The third section will concern question three and hypotheses seven and eight. Question three examined the effect of Communicative Reading Strategies on the writing ability of third grade poor readers. Hypothesis seven predicted that there would be a significant interaction between the mean Spontaneous Writing Quotient composite score on the Test of Written Language-2 (Hammill & Larsen, 1988) at pre- and posttest by the basal and CRS group. Hypothesis eight predicted that there would be a significant interaction between the mean Thematic Maturity subtest score on the Test of Written Language (Hammill & Larsen, 1988) at pre- and posttest by the basal and CRS group.

#### Results of the MANOVA

The results of the 2 (time, pretest and posttest) X 2 (group, experimental and control) MANOVA (Wilk's Criterion) revealed a significant overall time effect,  $F(18, 9) = 3.97$ ,  $p < .02$ , a nonsignificant overall group effect,  $F(18, 9) = 1.70$ ,  $p < .21$ , and a nonsignificant overall interaction between time and group,  $F(18, 9) = 1.82$ ,  $p < .18$ .

### Question One

The effect of Communicative Reading Strategies on reading ability was examined in question one. Hypotheses one, two, three, four, and five were concerned with comprehension, word recognition, instructional reading level, inferencing ability, and retelling ability, respectively.

#### Hypothesis One

Hypothesis one predicted that there would be a significant interaction between the mean number of Grade 3 and Grade 4 passage comprehension questions answered correctly on the Basic Reading Inventory (Johns, 1988) at pre- and posttest by the basal and CRS group. Means and standard deviations of the basal and CRS groups' number of correctly answered passage questions at pre- and posttest were calculated. These means and standard deviations are displayed in Table 2 and are graphically presented in Figure 1.

A two-way analysis ( $2 \times 2$ ) of variance was conducted on the number of correct responses to comprehension questions using group (Basal/CRS) and time (pretest/posttest) as the two factors. Time was a repeated measure. Results of the analysis revealed a significant main effect for time and a significant interaction between time and group. There was no significant main effect for group. Analysis of variance results are presented in Table 3.

The main effect for time was significant,  $F(1, 26) =$

Table 2

Means and Standard Deviations of Basal and CRS Groups' Number of Correctly Answered Passage Questions on the BRI at Pre- and Posttest

Group <sup>a</sup>	Pretest	Posttest
Basal		
<u>M</u>	12.75	14.00
<u>SD</u>	2.44	2.45
CRS		
<u>M</u>	11.68	15.25
<u>SD</u>	2.34	3.03

Note. Maximum score = 20.

<sup>a</sup>n = 14 for each group.

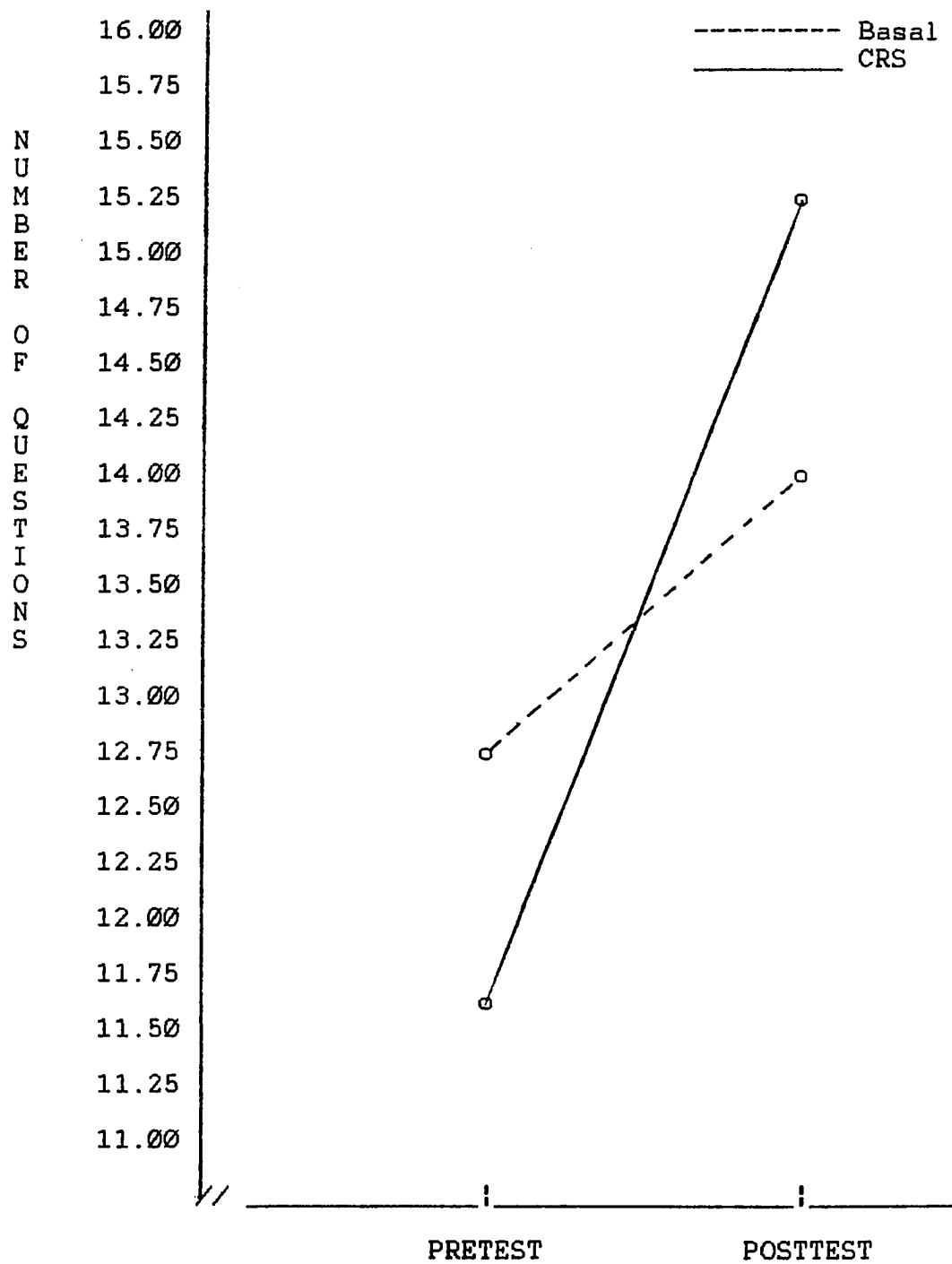


Figure 1. Mean number of correctly answered passage questions at pre- and posttest by the basal and CRS groups.

Table 3

Analysis of Variance Source Table for Basal and CRS Groups at  
Pre- and Posttest on Passage Questions

Source	df	SS	F	p
Group	1	.112	.01	.911
Time	1	81.362	18.65	.0002
Group X Time	1	18.862	4.32	.047

18.65,  $p < .0002$ . Post hoc analyses (Tukey's) revealed that all children showed significant improvement from pretest ( $M = 12.21$ ) to posttest ( $M = 14.63$ ).

The main effect for group was not significant,  $F(1, 26) = .01$ ,  $p < .91$ . The comprehension score of the CRS group ( $M = 13.46$ ) was not significantly different from the comprehension score of the basal group ( $M = 13.37$ ).

The interaction of group with time was significant,  $F(1, 26) = 4.32$ ,  $p < .05$ . That is, the CRS group showed significantly more improvement on comprehension from pre- to posttest (mean gain = +3.57) than did the basal group from pre- to posttest (mean gain = +1.25), as predicted. These data support hypothesis one.

### Hypothesis Two

Hypothesis two predicted that there would be a significant interaction between the mean number of words identified correctly in the Grade 3 and Grade 4 passages of the Basic Reading Inventory (Johns, 1988) at pre- and posttest by the basal and CRS group. Means and standard deviations of the basal and CRS groups' number of correctly identified words were calculated. These means and standard deviations are displayed in Table 4 and are graphically presented in Figure 2.

A two-way analysis ( $2 \times 2$ ) of variance was conducted on the number of correctly identified words using group (Basal/CRS) and time (pretest/posttest) as the two factors. Time was a repeated measure. Results of the analysis



Table 4

Means and Standard Deviations of Basal and CRS Groups' Number of Correctly Identified Words at Pre- and Posttest

Group <sup>a</sup>	Pretest	Posttest
Basal		
<u>M</u>	183.00	188.43
<u>SD</u>	6.36	4.59
CRS		
<u>M</u>	182.14	191.07
<u>SD</u>	10.97	6.32

Note. Maximum score = 200.

<sup>a</sup>n = 14 for each group.

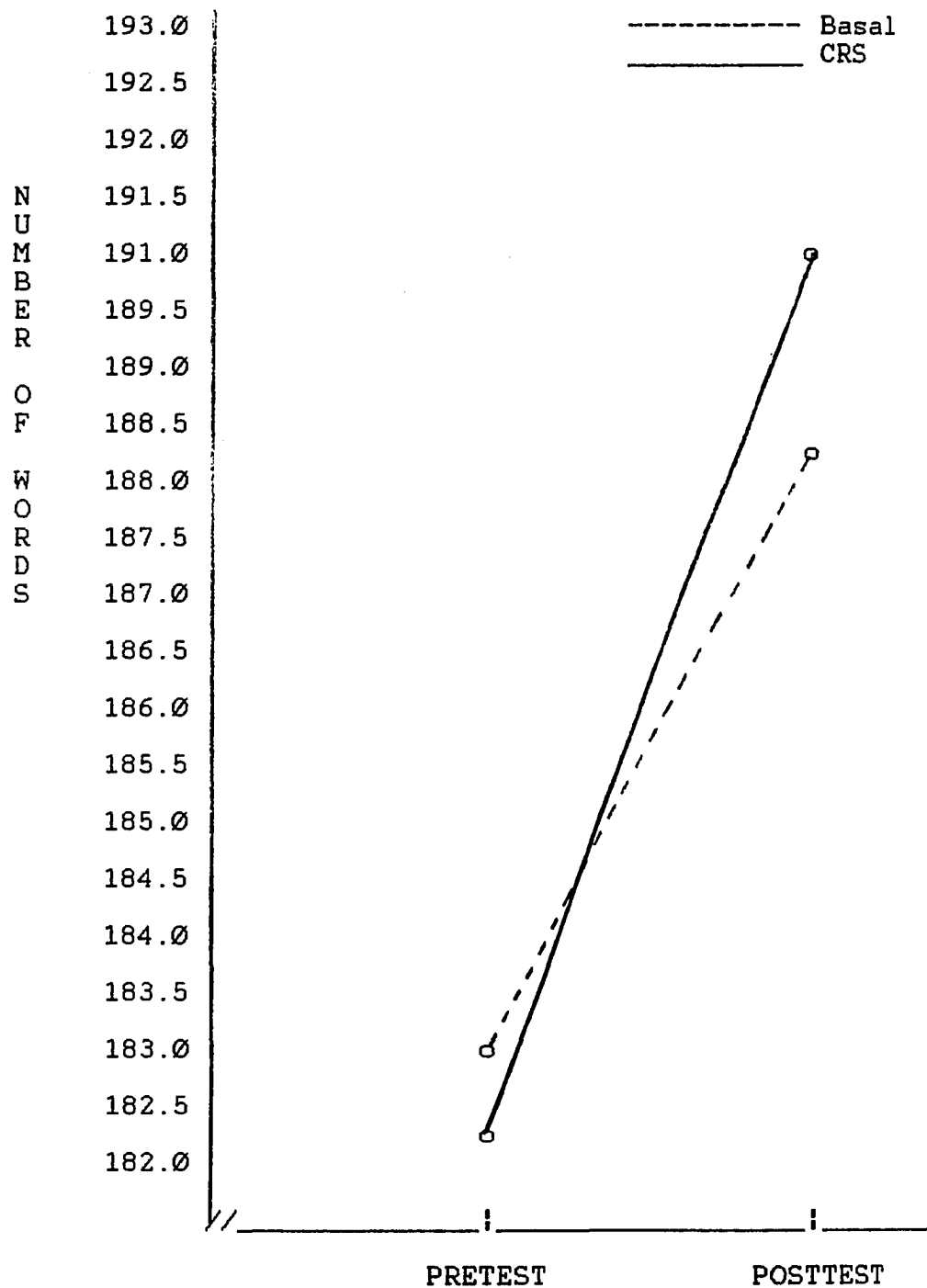


Figure 2. Mean number of correctly identified passage words at pre- and posttest by the basal and CRS group.

revealed a significant main effect for time. There was no significant effect for group and no significant interaction between group and time. Analysis of variance tables are presented in Table 5.

The main effect for time was significant,  $F(1, 26) = 24.42$ ,  $p < .0001$ . Post hoc (Tukey's) analyses revealed that all children showed significant improvement from the pretest ( $M = 182.57$ ) to the posttest ( $M = 189.75$ ).

The main effect for group was not significant,  $F(1, 26) = .14$ ,  $p < .714$ . The word recognition score of the CRS group ( $M = 186.61$ ) was not significantly different from the word recognition score of the basal group ( $M = 185.71$ ).

The interaction of group with time was not significant,  $F(1, 26) = 1.45$ ,  $p < .239$ . That is, although the CRS group showed more improvement on word recognition from pre- to posttest (mean gain = + 8.93) than did the basal group from pre- to posttest (mean gain = + 5.43), the difference in improvement was not significant. These data do not support hypothesis two.

### Hypothesis Three

Hypothesis three predicted that there would be a significant interaction between the mean grade levels identified as the instructional reading level on the Basic Reading Inventory (Johns, 1988) at pre- and posttest by the basal and CRS group. Means and standard deviations of the basal and CRS groups' instructional reading levels were calculated. These means and standard deviations are

Table 5

Analysis of Variance Source Table for Basal and CRS Groups at  
Pre- and Posttest on Passage Word Recognition

Source	df	SS	F	p
Group	1	11.161	.14	.714
Time	1	721.446	24.42	.0001
Group X Time	1	42.875	1.45	.239

displayed in Table 6 and graphically presented in Figure 3.

A two-way analysis (2 X 2) of variance was conducted on the instructional reading levels using group (Basal/CRS) and time (pretest/posttest) as the two factors. Time was a repeated measure. Results of the analysis revealed a significant main effect for time. There was no significant main effect for group and no significant interaction between time and group. Table 7 displays the results of the analysis of variance.

The main effect for time was significant,  $F(1, 26) = 20.28$ ,  $p < .0001$ . Post hoc (Tukey's) analyses revealed that all children showed significant improvement from the pretest ( $M = 3.89$ ) to the posttest ( $M = 5.43$ ).

The main effect for group was not significant,  $F(1, 26) = .10$ ,  $p < .755$ . The instructional reading level of the CRS group ( $M = 4.71$ ) was not significantly different from the instructional reading level of the basal group ( $M = 4.61$ ).

The interaction of group with time was not significant,  $F(1, 26)$ ,  $p < .087$ . That is, although the CRS group showed more improvement on instructional reading level from pre- to posttest (middle primer to high second grade) than did the basal group from pre- to posttest (low first grade to low second grade), the difference in improvement was not significant. These data do not support hypothesis three.

Table 6

Means and Standard Deviations of Basal and CRS Groups'  
Instructional Reading Levels at Pre- and Posttest

Group <sup>a</sup>	Pretest	Posttest
Basal		
<u>M</u>	4.14	5.07
<u>SD</u>	1.10	.98
CRS		
<u>M</u>	3.64	5.79
<u>SD</u>	1.74	1.12

Note. 1 = Below Preprimer, 2 = Preprimer, 3 = Primer, 4 = First Grade, 5 = Second Grade, 6 = Third Grade.

<sup>a</sup>n = 14 for each group.

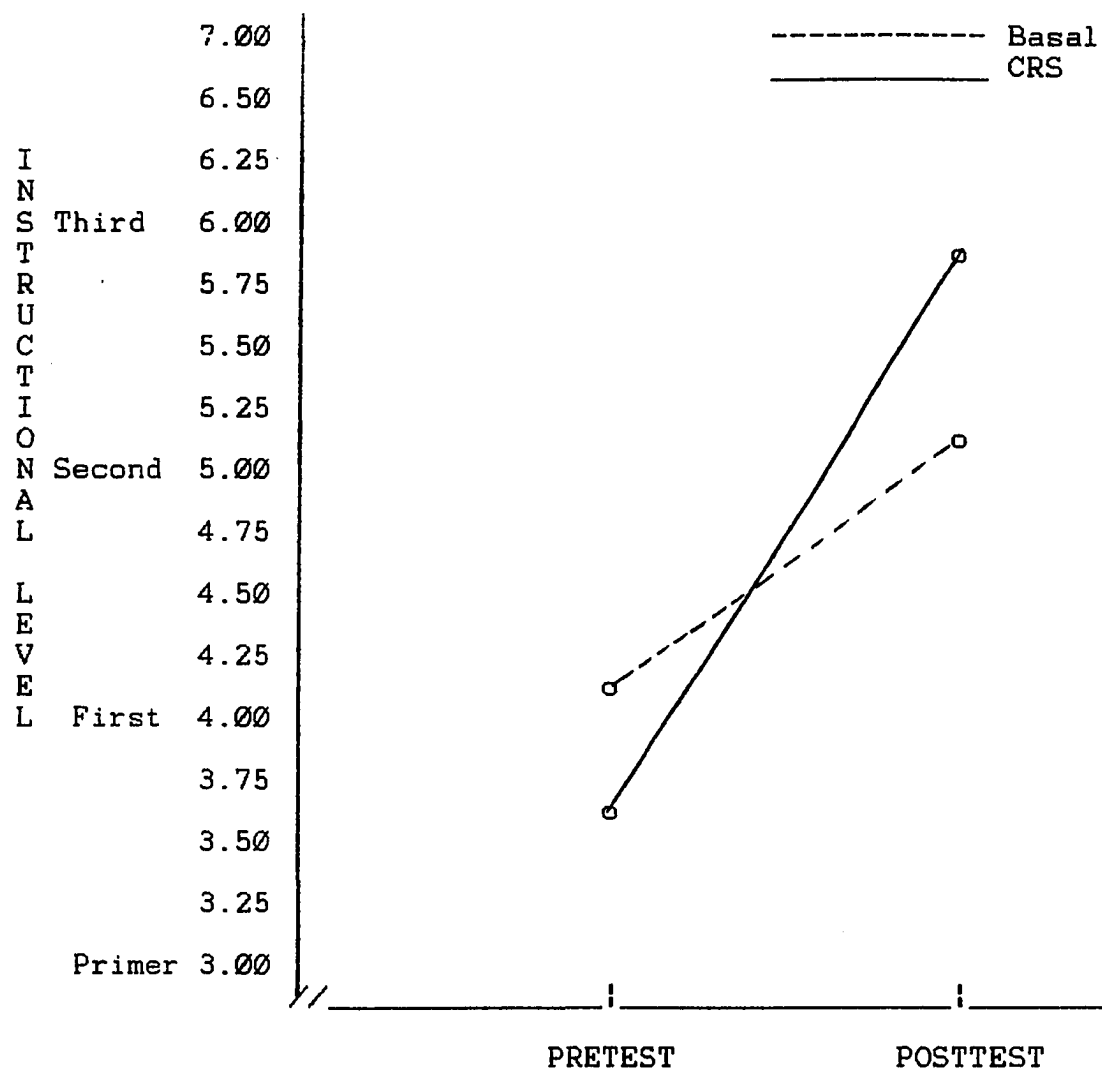


Figure 3. Mean instructional reading levels at pre- and posttest by the basal and CRS groups.

Table 7

Analysis of Variance Source Table for Basal and CRS Groups at  
Pre- and Posttest on Instructional Reading Level

Source	df	SS	F	p
Group	1	.161	.10	.755
Time	1	33.018	20.28	.0001
Group X Time	1	6.446	1.54	.087



#### Hypothesis Four

Hypothesis four predicted that there would be a significant interaction between the mean weighted scores obtained on an inferencing task at pre- and posttest by the basal and CRS group. Means and standard deviations of the basal and CRS groups' scores at pre- and posttest were calculated. These means and standard deviations are displayed in Table 8 and graphically presented in Figure 4.

A two-way analysis (2 X 2) of variance was conducted on the weighted inferencing scores using group (Basal/CRS) and time (pretest/posttest) as the two factors. Time was a repeated measure. Results of the analysis revealed a significant main effect for time. There was no significant effect for group and no significant interaction between time and group. Analysis of variance results are presented in Table 9.

The main effect for time was significant  $F(1, 26) = 8.63$ ,  $p < .007$ . Post hoc (Tukey's) analyses revealed that all children showed significant improvement from the pretest ( $M = 31.96$ ) to the posttest ( $M = 37.11$ ).

The main effect for group was not significant  $F(1, 26)$ ,  $p < .961$ . The weighted inferencing score for the CRS group ( $M = 7.93$ ) was not significantly different from the weighted inferencing score for the basal group ( $M = 7.89$ ).

The interaction of group with time was not significant,  $F(1, 26) = .04$ ,  $p < .850$ . That is, although the CRS group showed more improvement on inferencing ability from

Table 8

Means and Standard Deviations of Basal and CRS Groups'  
Weighted Inferencing Scores at Pre- and Posttest

Group <sup>a</sup>	Pretest	Posttest
Basal		
<u>M</u>	32.21	36.21
<u>SD</u>	8.42	4.00
CRS		
<u>M</u>	31.71	38.00
<u>SD</u>	7.57	6.59

Note. Maximum score = 52.

<sup>a</sup>n = 14 for each group.

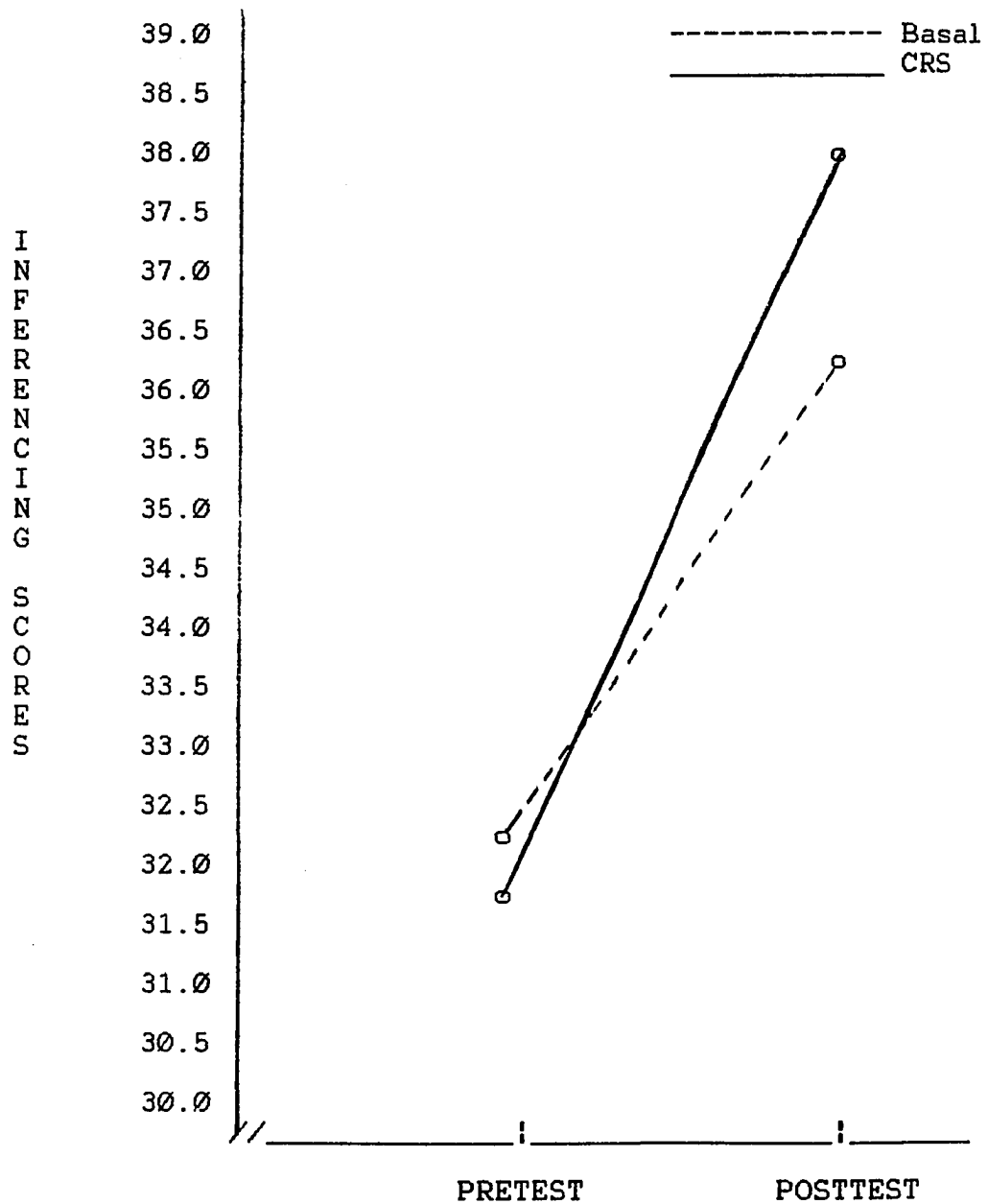


Figure 4. Mean weighted inferencing scores at pre- and posttest by the basal and CRS group.

Table 9

Analysis of Variance Source Table for Basal and CRS Groups  
at Pre- and Posttest on Weighted Inferencing Scores

Source	df	SS	F	p
Group	1	.018	.00	.961
Time	1	36.161	8.63	.007
Group X Time	1	6.45	1.54	.226

pre- to posttest (mean gain = + 6.29) than did the basal group from pre- to posttest (mean gain = + 4.00), the difference in improvement was not significant. These data did not support hypothesis four.

#### Hypothesis Five

Hypothesis five predicted that there would be a significant interaction between the mean error ratio scores obtained on an oral retelling of the third grade passage of the Basic Reading Inventory (Johns, 1988) at pre- and posttest by the basal and CRS group. Means and standard deviations of the basal and CRS groups' error ratio scores on the retelling task at pre- and posttest were calculated. These means and standard deviations are displayed in Table 10 and graphically presented in Figure 5.

A two-way (2 X 2) analysis of variance was conducted on the error ratio scores obtained on the retelling task using group (Basal/CRS) and time (pretest/posttest) as the two factors. Time was a repeated measure. Results of the analysis of variance revealed a significant main effect for group. There was no significant main effect for time and no significant interaction between time and group. Analysis of variance results are presented in Table 11.

The main effect for group was significant,  $F(1, 26) = 5.36$ ,  $p < .03$ . Post hoc (Tukey's) analyses revealed that the mean error ratio score for the CRS group (2.93) was significantly less than the mean error ratio score for the basal group (3.59). This result indicates that the CRS

Table 10

Means and Standard Deviations of Basal and CRS Groups' Error Ratio Scores on the Retelling Task at Pre- and Posttest

Group <sup>a</sup>	Pretest	Posttest
Basal		
<u>M</u>	3.62	3.56
<u>SD</u>	1.22	1.04
CRS		
<u>M</u>	2.88	2.98
<u>SD</u>	.89	1.03

<sup>a</sup>n = 14 in each group.

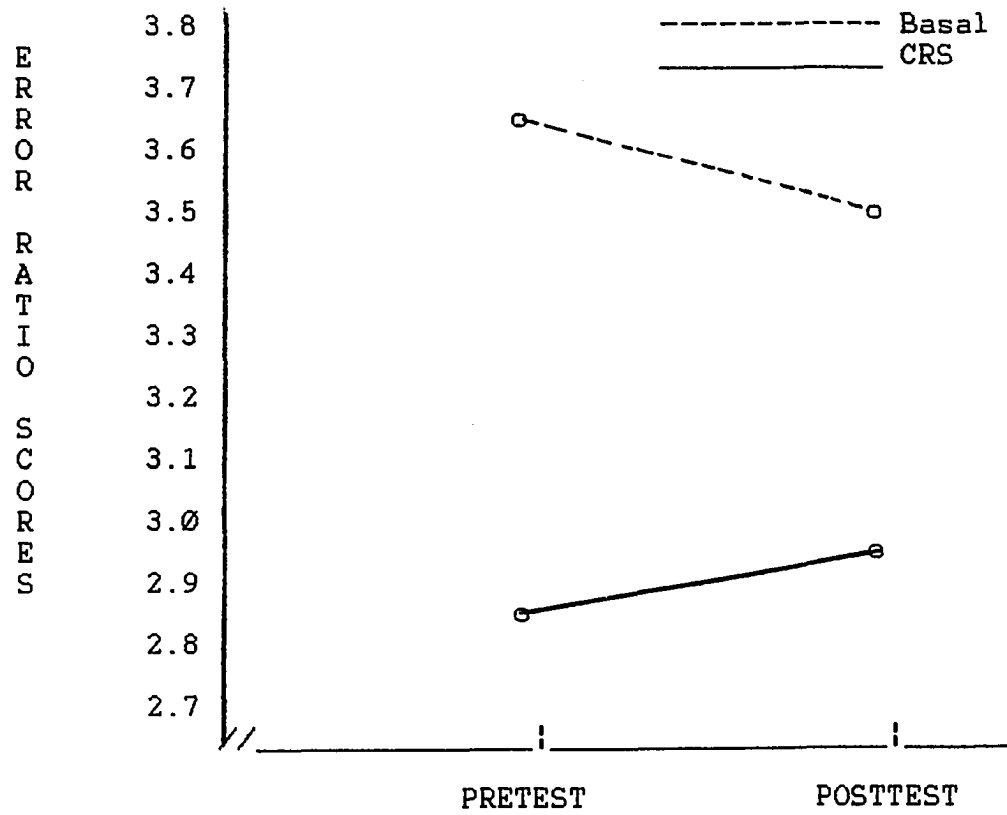


Figure 5. Mean error ratio scores on the retelling task at pre- and posttest by the basal and CRS group.

Table 11

Analysis of Variance Source Table for Basal and CRS Groups  
at Pre- and Posttest for Error Ratio Scores on the Retelling  
Task

Source	df	SS	F	p
Group	1	6.098	5.36	.028
Time	1	.003	.00	.957
Group X Time	1	.095	.09	.769



group's performance on the retelling task was significantly better than the basal group's performance.

However, the main effect for time was not significant,  $F(1, 26) = 0.00$ ,  $p < .957$ . This result indicates that none of the children's performance was significantly different from the pretest ( $M = 3.25$ ) to the posttest ( $M = 3.27$ ).

The interaction of group with time was not significant,  $F(1, 26) = .09$ ,  $p = .769$ . That is, although the basal group showed a slight improvement on retelling ability from pre- to posttest (mean gain = + .06), and the CRS group showed a slight decrease in performance from pre- to posttest (mean gain = - .10), these shifts in performance were not significant. These data do not support hypothesis five.

#### Summary of Question One

Question one examined the effect of CRS on reading ability. Hypothesis one predicted a significant interaction between mean comprehension scores at pre- and posttest by the basal and CRS group. This hypothesis was supported by the data. Although all children showed significant improvement from pre- to posttest, the CRS group improved significantly more than the basal group from pre- to posttest.

Hypotheses two, three, four, and five were not supported by the data. That is, there was no significant interaction between mean word recognition scores, mean instructional reading level scores, mean inference scores, or mean retelling scores at pre- and posttest by the

basal and CRS group. Although the CRS group showed more improvement on word recognition, instructional reading level, and inferencing ability from pre- to posttest than did the basal group, the difference in improvement was not significant.

All children showed significant improvement from pre- to posttest on comprehension, word recognition, instructional reading level, and inferencing ability. The mean error ratios on the retelling task indicate that the CRS group's performance decreased slightly from pre- to posttest, and the basal group's performance increased slightly from pre- to posttest. However, these shifts were not significant.

#### Question Two

Question two examined the effects of CRS on oral language proficiency. Hypothesis six was concerned with storytelling ability.

#### Hypothesis Six

Hypothesis six predicted that there would be a significant interaction between the mean error ratio scores on the Norris Story Telling Task (Norris, 1985a) at pre- and posttest by the basal and CRS group. Means and standard deviations of pre- and posttest scores for the basal and CRS group were calculated. These means and standard deviations are displayed in Table 12 and graphically presented in Figure 6.

Table 12

Means and Standard Deviations of Basal and CRS Groups' Error Ratio Scores on the Norris Story Telling Task at Pre- and Posttest

Group <sup>a</sup>	Pretest	Posttest
Basal		
<u>M</u>	3.37	3.07
<u>SD</u>	1.37	.96
CRS		
<u>M</u>	3.02	2.14
<u>SD</u>	.81	.69

<sup>a</sup>n = 14 for each group.

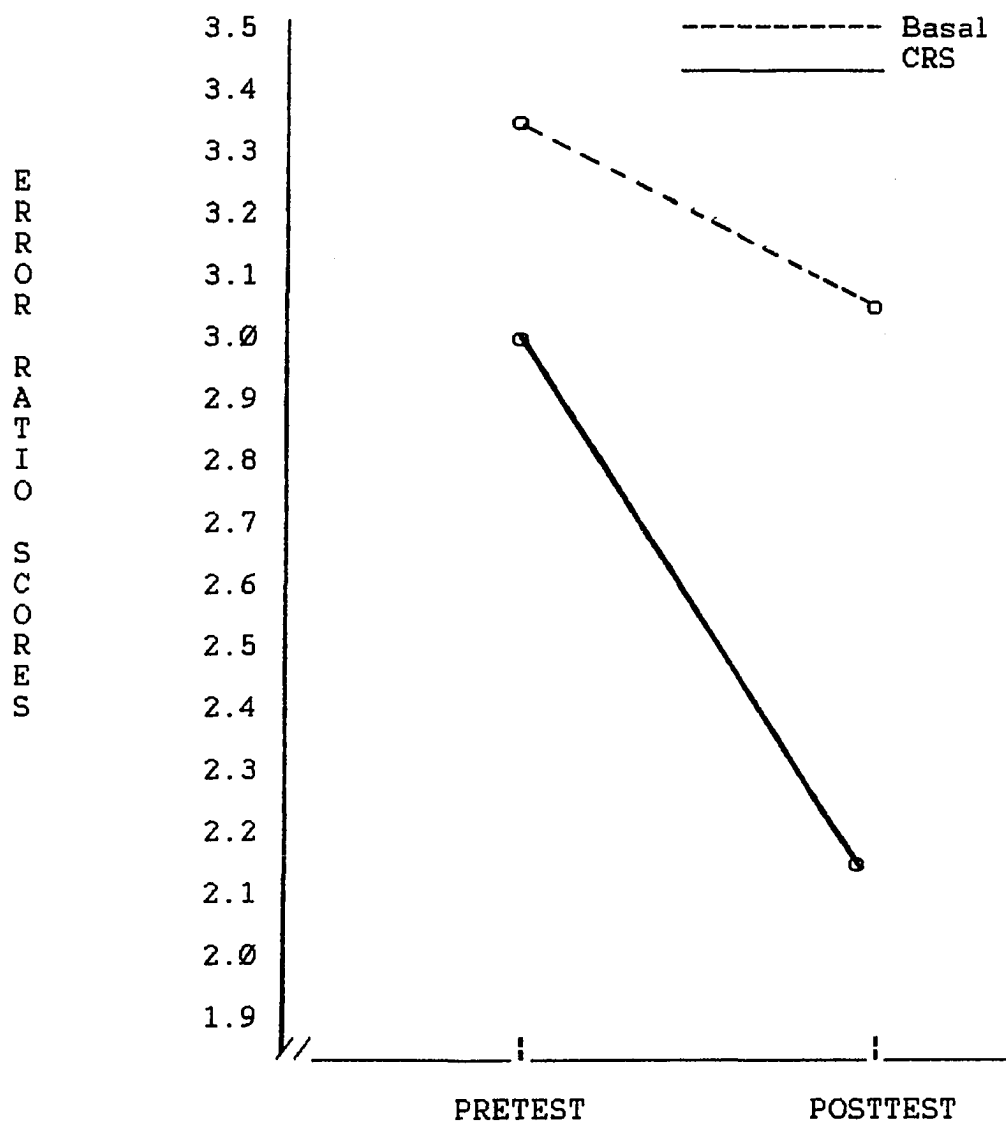


Figure 6. Mean error ratio scores on the Norris Story Telling Task at pre- and posttest by the basal and CRS group.

A two-way analysis (2 X 2) of variance was conducted on the error ratio scores on the Norris Story Telling Task (Norris, 1985) using group (Basal/CRS) and time (pretest/posttest) as the two factors. Time was a repeated measure. Results of the analysis of variance revealed a significant main effect for group, a significant main effect for time, and no significant interaction. Analysis of variance results are presented in Table 13.

The main effect for group was significant,  $F(1, 26) = 5.17$ ,  $p < .03$ . Post hoc (Tukey's) analyses revealed that the mean error ratio score for the CRS group (2.58) was significantly less than the mean error ratio score for the basal group (3.21). This result indicates that the CRS group's performance on the storytelling task was significantly better than the basal group's performance.

The main effect for time was significant,  $F(1, 26) = 5.57$ ,  $p < .03$ . Post hoc (Tukey's) analyses revealed that all children made significantly fewer errors from the pretest ( $M = 3.19$ ) to the posttest ( $M = 2.61$ ).

The interaction of group with time was not significant  $F(1, 26) = 1.32$ ,  $p < .261$ . That is, although the CRS group showed more improvement on storytelling ability from pretest to posttest (mean gain = + .88) than did the basal group from pretest to posttest (mean gain = +.30), the difference in improvement was not significant. These data did not support hypothesis six.

Table 13

Analysis of Variance Source Table for Basal and CRS Groups  
at Pre- and Posttest for Error Ratio Scores on the Norris  
Story Telling Task

Source	df	SS	F	p
Group	1	5.70	5.17	.031
Time	1	4.81	5.57	.026
Group X Time	1	1.14	1.32	.261

### Question Three

The effect of Communicative Reading Strategies on writing ability was examined in question three. Hypotheses seven and eight were concerned with overall spontaneous writing ability and the ability to write in a logical, organized fashion (thematic maturity), respectively.

#### Hypothesis Seven

Hypothesis seven predicted that there would be a significant interaction between the mean Spontaneous Writing Quotient (SWQ) on the Test of Written Language-2 (Hammill & Larsen, 1988) at pre- and posttest by the basal and CRS group. Means and standard deviations of the basal and CRS groups' Spontaneous Writing Quotients at pre- and posttest were calculated. These means and standard deviations are displayed in Table 14 and graphically presented in Figure 7.

A two-way analysis (2 X 2) of variance was conducted on the SWQ scores using group (Basal/CRS) and time (pretest/posttest) as the two factors. Time was a repeated measure. Results of the analysis revealed a significant main effect for time. There was no significant main effect for group and no significant interaction between time and group. Analysis of variance results are presented in Table 15.

The main effect for time was significant,  $F(1, 26) = 7.73$ ,  $p < .01$ . Post hoc (Tukey's) analyses revealed that all children showed significant improvement from pretest ( $M = 83.43$ ) to posttest ( $M = 90.46$ ).

The main effect for group was not significant,  $F(1,$

Table 14

Means and Standard Deviations of Basal and CRS Groups'  
Spontaneous Writing Quotients at Pre- and Posttest

Group <sup>a</sup>	Pretest	Posttest
Basal		
<u>M</u>	85.64	89.14
<u>SD</u>	11.51	16.23
CRS		
<u>M</u>	81.21	91.79
<u>SD</u>	12.58	15.50

<sup>a</sup>n = 14 for each group.



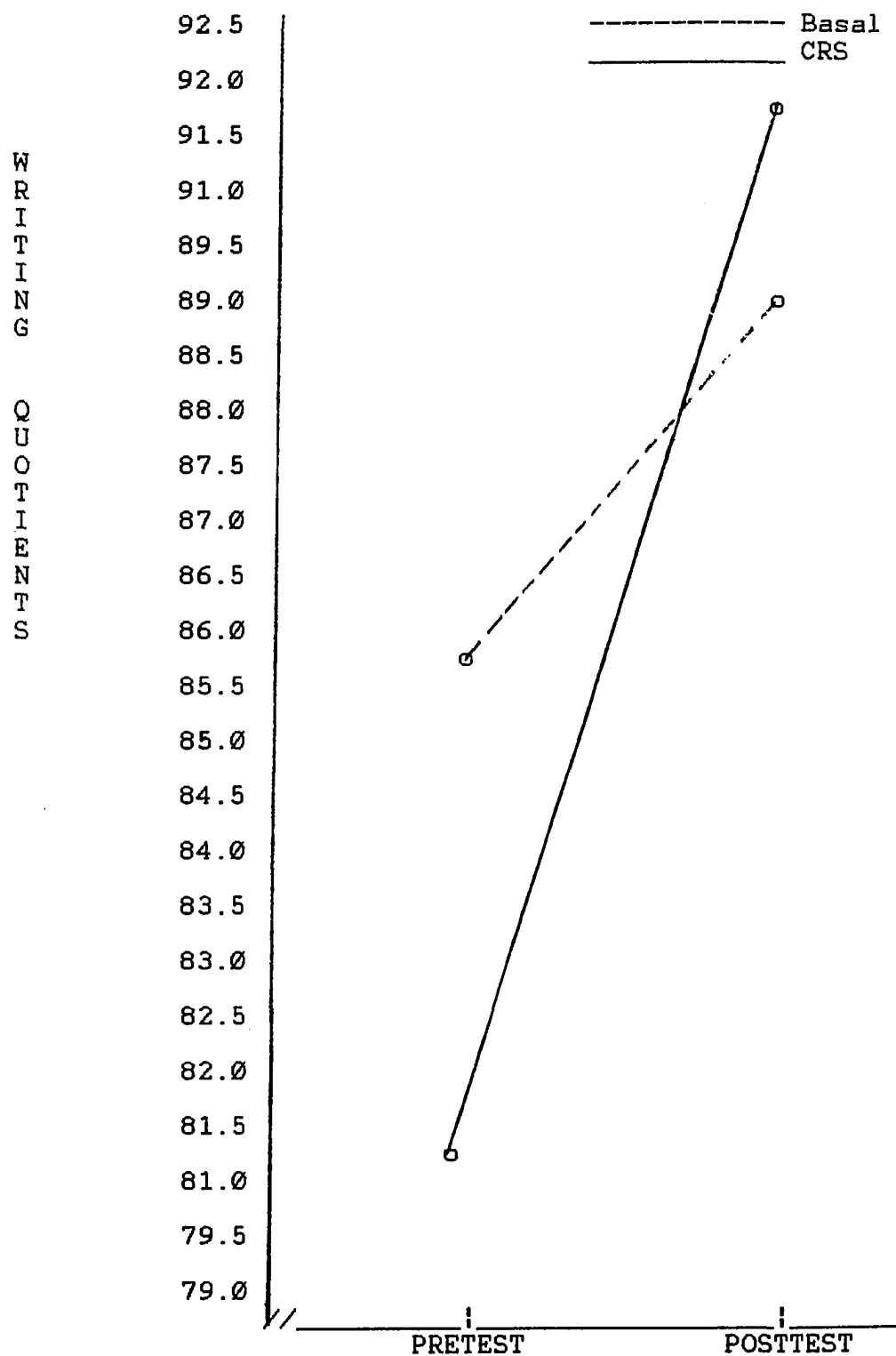


Figure 7. Mean Spontaneous Writing Quotients at pre- and posttest by the basal and CRS group.

Table 15

Analysis of Variance Source Table for Basal and CRS Groups at  
Pre- and Posttest on Spontaneous Writing Quotient

Source	df	SS	F	p
Group	1	11.16	.04	.850
Time	1	693.02	7.73	.01
Group X Time	1	175.02	1.95	.174

26) = .04,  $p < .85$ . The overall spontaneous writing quotient for the CRS group ( $M = 86.50$ ) was not significantly different from the overall spontaneous writing quotient for the basal group ( $M = 87.39$ ).

The interaction of group with time was not significant,  $F(1, 26) = 1.95$ ,  $p < .174$ . That is, although the CRS group showed more improvement on spontaneous writing from pre- to posttest (+ 10.57) than did the basal group from pre- to posttest (+ 3.50), the difference in improvement was not significant. These data do not support hypothesis seven.

#### Hypothesis Eight

Hypothesis eight predicted that there would be a significant interaction between the mean Thematic Maturity subtest score on the Test of Written Language-2 (Hammill & Larsen, 1988) at pre- and posttest by the basal and CRS group. Means and standard deviations of the basal and CRS groups' thematic maturity scores at pre- and posttest were calculated. These means and standard deviations are displayed in Table 16 and graphically presented in Figure 8.

A two-way analysis (2 X 2) of variance was conducted on the thematic maturity scores using group (Basal/CRS) and time (pretest/posttest) as the two factors. Time was a repeated measure. Results of the analysis revealed no significant main effects for time or group and no significant interaction between time and group. Analysis of variance results are presented in Table 17.

The main effect for time was not significant  $F(1, 26)$

Table 16

Means and Standard Deviations of Basal and CRS Groups'  
Thematic Maturity Subtest Scores at Pre- and Posttest

Group <sup>a</sup>	Pretest	Posttest
Basal		
<u>M</u>	9.21	8.79
<u>SD</u>	2.91	1.97
CRS		
<u>M</u>	8.14	9.86
<u>SD</u>	3.66	2.98

<sup>a</sup>n = 14 for each group.

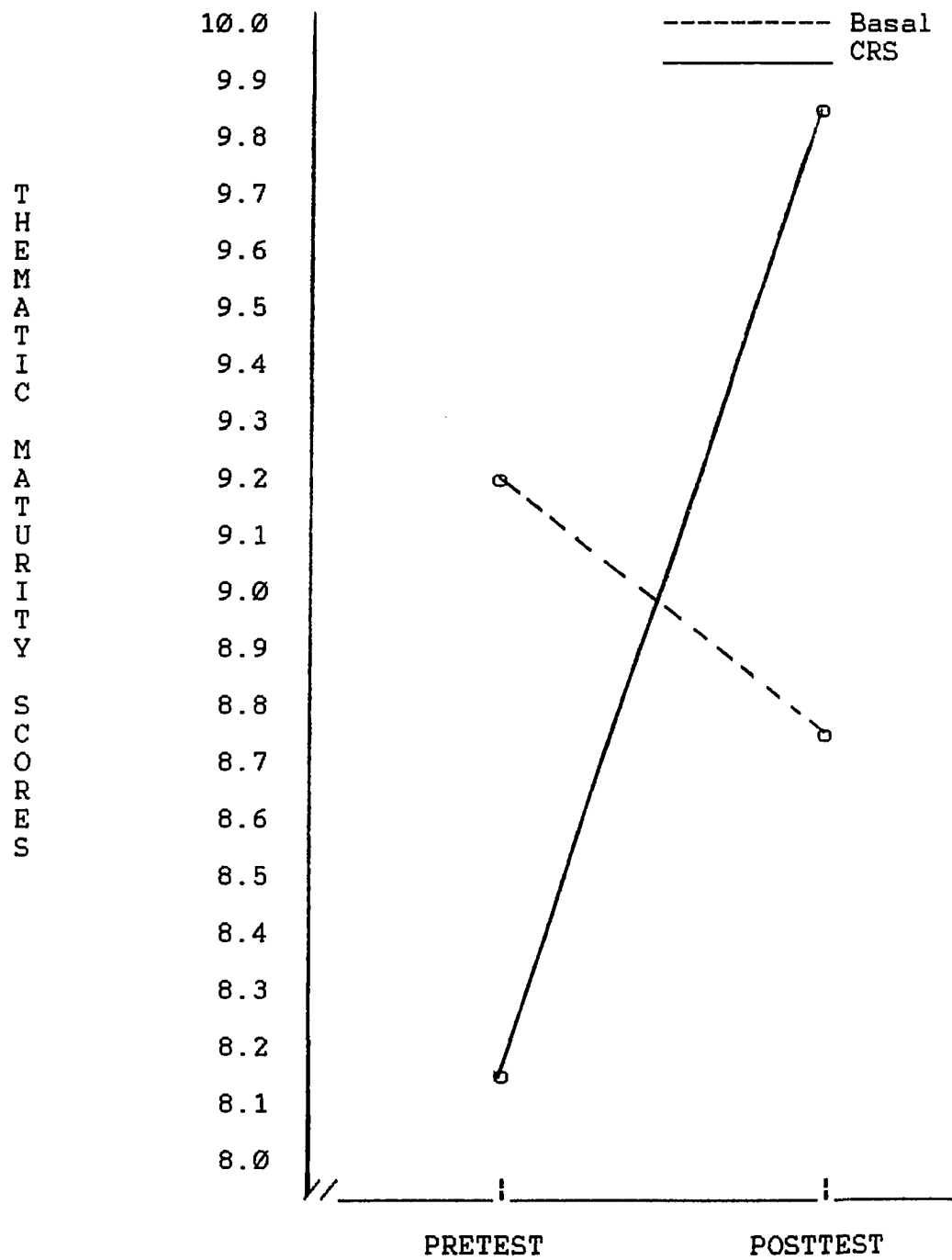


Figure 8. Mean thematic maturity subtest scores at pre- and posttest by the basal and CRS group.

Table 17

Analysis of Variance Source Table for Basal and CRS Groups  
at Pre- and Posttest on Thematic Maturity Subtest Scores

Source	df	SS	F	p
Group	1	.000	.000	1.000
Time	1	5.79	1.000	.328
Group X Time	1	16.07	2.76	.108

$= 1.00$ ,  $p < .328$ . This result indicates that none of the children showed significant improvement from pretest ( $M = 8.68$ ) to posttest ( $M = 9.32$ ).

The main effect for group was not significant,  $F(1, 26) = 0.00$ ,  $p < 1.00$ . The thematic maturity subtest score for the CRS group ( $M = 9.00$ ) was not significantly different from the thematic maturity subtest score for the basal group ( $M = 9.00$ ).

The interaction of group with time was not significant  $F(1, 26) = 2.76$ ,  $p < .108$ . That is, although the CRS group showed improvement on thematic maturity from pre- to posttest (mean gain =  $+ 1.71$ ), and the basal group showed decreased performance on thematic maturity from pre- to posttest (mean gain =  $- .43$ ), these shifts in performance were not significant. These data do not support hypothesis eight.

### Summary of Question Three

Question three examined the effect of CRS on writing ability. Hypothesis seven predicted a significant interaction between the mean Spontaneous Writing Quotient (SWQ) scores on the Test of Written Language-2 (Hammill & Larsen, 1988) at pre- and posttest by the basal and CRS group. This hypothesis was not supported by the data. Although the CRS group showed more improvement on spontaneous writing from pre- to posttest ( $+ 10.57$ ) than did the control group from pre- to posttest ( $+ 3.50$ ), the difference in improvement was not significant.

Hypothesis eight predicted that there would be a significant interaction between the mean Thematic Maturity subtest score on the Test of Written Language-2 (Hammill & Larsen, 1988) at pre- and posttest by the basal and CRS group. This hypothesis was not supported by the data. Although the CRS group showed improvement on the thematic maturity subtest from pre- to posttest (mean gain = + 1.71), and the basal group showed decreased performance on thematic maturity from pre- to posttest (mean gain = - .43), these shifts in performance were not significant.

All children showed significant improvement from pre- to posttest on spontaneous writing and no children showed significant improvement from pre- to posttest on thematic maturity.



## CHAPTER 5

### CONCLUSIONS

The purpose of this study was to investigate the effects of Communicative Reading Strategies (CRS) on the reading, writing, and oral language proficiency of children with below average oral language and reading abilities. This chapter will interpret the results presented in Chapter 4, and then discuss the implications of these results. This chapter will be presented in seven sections. First, the theoretical framework upon which Communicative Reading Strategies are based is reviewed. Second, the oral reading performance of the experimental (CRS) group and the control (basal) group in terms of word recognition, three levels of comprehension (passage questions, inferencing, and story retelling), and instructional reading level will be addressed.

Third, the oral language performance of the two groups will be discussed and interpreted in terms of ability to structure narrative discourse. Fourth, the writing performance of the CRS and the basal group will be discussed and interpreted relative to the ability to compose a message that adequately communicates thoughts, feelings, and opinions. Fifth, limitations of the study will be acknowledged. Sixth, implications for instruction drawn from the interpretation of the results of the study will be

provided. And finally, suggestions for future research will be offered.

### Communicative Reading Strategies

Educators and researchers have long been concerned about children who experience failure and frustration in learning to read. Although many theories have been posited to explain reading disabilities and even more techniques have been developed to remediate them, teachers continue to express concern for children who seem to experience only limited progress regardless of the remediation method or technique employed.

The theoretical framework upon which the present study is based suggests that poor performance on reading related tasks is symptomatic of a level of semiotic development insufficient for its emergence, rather than the direct cause of the reading failure. The reading failure is a far more complex problem, involving the interrelated effects of social and environmental, neurological, and linguistic development. That is, the disordered system itself is theorized as the cause of the measured linguistic deficits and the reading disabilities. The implications for instruction suggest a process approach aimed at enhancement of all aspects of the language system--linguistic, social, and cognitive--rather than a product approach aimed at remediation of one specific aspect.

In order for the process approach to enhance all

aspects of the language system, remediation must occur within the context of meaningful communication rather than contrived language tasks, because meaningful communication can not exist without the simultaneous activation of all three aspects of the language system. Although children acquire their language systems through communication in the auditory mode, and remediation for disordered language systems can occur through the auditory mode, the auditory signal is transitory and fleeting. The visual mode (written language), however, is stable and can be processed repeatedly until the content of the message as well as the manner in which the message is expressed can be understood.

Communicative Reading Strategies (Norris, 1988) were developed in order to use reading as a vehicle through which language strategies can be developed. That is, reading can be used to enable a child to acquire the visual representation of the language (to learn to read), and at the same time assist the child in using the visual representation of the language to enhance the language system. Communicative Reading Strategies were employed in the present study in order to examine their effect on the reading ability (processing written language), oral language ability (production of oral language), and writing ability (production of written language) of children who were identified as having language and reading disorders.

### The Effect of CRS on Reading Ability

Question one examined the effect of CRS on reading ability. Five measures were used to assess the reading ability of the CRS and the basal group at pre- and posttest: word recognition within the context of passages; three increasingly more difficult levels of comprehension-- passage comprehension questions, inferencing ability, and retelling ability; and the instructional reading level derived from the word recognition and passage comprehension questions scores.

#### Word Recognition

There was a main effect for time on the word recognition measure. These results indicate that all children improved significantly on word recognition from pre- to posttest. There was no interaction between time and group indicating that both methods of instruction were equally effective in terms of improving word recognition ability. That is, even though 20% of basal instructional time was dedicated to word recognition activities (phonics and vocabulary practice), and intervention for the CRS group included no direct instruction of word recognition skills, the CRS group improved from pre- to posttesting as much as the basal group. This result suggests that intervention that treats reading as a communicative process is at least as effective as direct instruction at improving recognition of written language for reading disabled students. Or, stated another way, direct instruction held no advantage

over CRS instruction.

Some theorists and practitioners would argue that a more holistic approach to reading (such as CRS) may be appropriate for those children who are only slightly below average in reading ability, but those who exhibit severe reading disorders require direct instruction of isolated skills (such as word recognition). A closer examination of the descriptive statistics obtained on the analysis of word recognition scores contradicts this argument. That is, there was a dramatic narrowing of the standard deviation from pretest ( $SD = 10.97$ ) to posttest ( $SD = 6.32$ ) for the CRS group. This decrease in standard deviation suggests that those children with the poorest word recognition skills in the CRS group improved in this area. When the individual scores are examined, the suggestion is confirmed. Two children who scored nearly two standard deviations below the mean at pretest showed a gain of 18 and 23 words, respectively, on the posttest. The dramatically improved performance of these children with the poorest word recognition skills suggests that a more holistic communicative approach to reading is effective for improving word recognition in context for even the worst readers.

### Comprehension

#### Passage Comprehension Questions

Reading comprehension, or the ability to understand written language, can be measured at many levels. The least

difficult of these levels measured in the present study was the ability to answer passage comprehension questions presented orally. This task was easier than the higher level tasks for several reasons. First, the questions presented were derived from the story, and most of them were very concrete and factual (e.g., "Where did Spotty go?"). Second, the production requirements of the task were minimal. That is, because the quality of the response in terms of manner of delivery was not scored, children could respond with single words or single ideas and receive credit for a correct response. Third, the information was organized for the child by the question itself, thereby requiring no organization or sequencing of information by the child.

Because the three comprehension tasks required increasingly more complex language abilities, it is expected that reading comprehension changes would be apparent at the least difficult level (comprehension passage questions) first. The data obtained in the present study support this expectation. All children showed significant improvement from pre- to posttest on passage comprehension questions, indicating that reading instruction with children exhibiting poor oral language and reading is effective in improving comprehension. Furthermore, the data suggest that the integrated process approach to intervention is more effective than the discrete skill approach. That is, the CRS group made significantly more progress than did the basal group on the passage comprehension question task. And

because there were no significant differences between groups on word recognition ability before intervention, this improved performance on comprehension questions cannot be attributed to initial differences in word recognition ability.

These results are more noteworthy when the amount of time dedicated to the answering of comprehension questions during CRS and basal group instruction is considered. Although 40% of the instructional time for the basal group was dedicated to answering comprehension questions, and virtually no comprehension questions were asked during CRS instruction, the CRS group made significantly more gains from pre- to posttest on comprehension questions. These results provide powerful support for the use of higher level semantic based instruction (such as CRS), rather than lower level skill based instruction (such as practice with comprehension questions, where instruction is directed at a discrete deficiency), for children with language and reading problems.

#### Inferencing Ability

The next higher level of written language comprehension measured in the present study was inferencing ability. The task used to measure this ability required a more complex semantic organization of the language system, because it demanded the integration of prior knowledge and textual information. Although the questions were directly related

to the story, the answers required activation of knowledge acquired from world experiences. The questions themselves organized the information for the child so the child did not have to produce the information spontaneously, but the production requirements were more difficult than the passage question task because none of the questions were concrete or factual, and most required more than a single word or single idea response.

All children showed significant improvement on inferencing ability from pre- to posttest. There was no significant interaction between time and group for inferencing. These results indicate that small group reading instruction in general may be effective in improving inferencing ability. Also, the results suggest that basal instruction is no better than CRS instruction for improving inferencing ability. These results are more interesting in light of the differences between basal instruction and CRS instruction. Inference questions (e.g., questions requiring children to draw conclusions, make generalizations, predict outcomes, synthesize ideas) were asked and discussed following the reading of the stories during basal instruction. No questions were asked during CRS instruction. Yet CRS was shown to be at least as effective as basal instruction at improving inferencing ability for reading disabled students. These results suggest that the practice of answering inferencing questions is only one way of improving that ability.



### Retelling Ability

The most difficult level of comprehension measured in the present study was the ability to structure narrative discourse spontaneously. This ability was measured by the retelling task. The retelling task was the most difficult of the three comprehension tasks because it required the child not only to organize information but also to present it in a manner consistent with principles of discourse. That is, the child's retelling was scored not only on the amount and accuracy of the information recalled (a less difficult task), but also on the quality of production, or the manner in which the information was expressed (a more difficult task). There was no organization of information provided for the child (as in the passage question and inferencing task). The child had to be able to provide all propositions, significant bits of information, relationships, and purposes considered essential to a complete retelling of the story read orally. This information had to be provided in a logical sequence and in a manner that communicated the information clearly and fluently.

None of the children improved significantly from pre- to posttest on the retelling task (the highest level of comprehension). And there was no significant interaction between time and group for retelling ability, indicating that neither method was superior to the other in effecting change in retelling ability for children with reading

deficiencies. It might be suggested that retelling is such a difficult task that significant improvement from pre- to posttest could not be detected after such a short intervention period. However, even this suggestion should be interpreted with caution in light of the low alternate form reliability coefficient obtained for this test (.11). The two stories used to elicit the retelling at pre- and posttest were of equal length (100 words) and equal readability levels (Grade 3). Moreover, half of the children at pretest received one form and half received the other, with alternate forms administered at posttest. Also, the interscorer reliability coefficient obtained for this test was .92, so the low correlation between pre- and posttest scores could not be attributed to inconsistent scoring. Although every effort was made to ensure the equivalence of the two forms, the low alternate form reliability coefficient obtained renders interpretation of the results limited, at best.

#### Instructional Level

The score on instructional reading level was derived from the word recognition and the passage comprehension question scores. Both the CRS group and the basal group improved significantly from pre- to posttest, with the basal group progressing from a low first grade to a low second grade instructional level, an increase of approximately one grade level. The CRS group progressed from a middle primer to a high third grade instructional level, an increase of

nearly two-and-one-half grade levels. The comparatively greater increase in performance for the CRS group approached significance ( $p < .087$ ). This result is not surprising since one of the components of the instructional level score is passage comprehension, a task on which the CRS group showed significantly more improvement from pre- to posttest.

#### The Effect of CRS on Oral Language Production

Question two examined the effect of CRS on oral language proficiency. One measure, the story telling task, was used to assess narrative discourse ability of the basal and CRS groups at pre- and posttest. The story telling task required the student to look at a series of pictures and tell a story about them. The score obtained reflected the child's ability not only to provide an adequate amount of information in order for the listener (a puppet) to understand the story, but also to provide the information in a manner that did not interfere with the listener's understanding. It was hypothesized that written language instruction (reading) would significantly affect oral language production, if the theory that instruction in any language mode affects performance in all others is accurate.

All children improved significantly from pre- to posttest on the storytelling task, and neither group improved significantly more than the other from pre- to posttest. These results could be interpreted as suggesting that small group reading instruction is effective in

improving oral language proficiency and that neither method is superior to the other. However, these results should be viewed with caution considering the low alternate form reliability coefficient obtained from pre- and posttesting (.18). Both forms of the story telling task consisted of seven pictures, and the only differences in the pictures were the race of the two children (black/white), the type of animal eating the ice cream (cat/dog), and the setting of the highpoint of the story (outside porch/inside playroom). Moreover, procedures for administration of the task were identical, the scoring criteria were identical, and the interscorer reliability coefficient was high (.89). Although every precaution was taken to ensure equivalent alternate forms, the low correlation coefficient between Form A and Form B scores limits the confidence that can be placed in the results.

#### The Effect of CRS on Writing Ability

Question three examined the effect of CRS on writing ability. Two measures were used to assess writing ability. Both measures were based on a story spontaneously written about a picture provided. The first of these measured overall spontaneous contextual writing ability, a composite of the ability to spell, capitalize, and punctuate correctly, the ability to use an appropriate vocabulary and syntactical level, and the ability to provide the necessary elements of a well written story (characters, plot, initiating event,

etc.) in a logical, sequential, related manner. The second measure, Thematic Maturity, was actually one of the subtests of the overall measure, assessing the inclusion of essential elements of the story, and the relationships that were provided among those essential elements to produce a meaningful story. It was hypothesized that reading instruction would affect writing ability, since the theory upon which the present study is based suggests that there is one language system and all modes of language are affected by instruction in any mode.

All children improved significantly from pre- to posttest on the overall spontaneous writing measure. These results provide positive support for the notion that there is a link between the reading mode of language and the writing mode of language. Even though neither group received direct instruction in writing, both groups improved significantly on the overall writing measure. There were no significant differences in improvement between the two groups from pre- to posttest. These results suggest that CRS instruction is at least as effective as basal instruction in effecting improvement in spontaneously writing stories that include conventional spelling, capitalization, and punctuation, as well as an appropriate level of vocabulary use. Moreover, because the overall spontaneous writing score included a measure of syntactic maturity and thematic maturity, CRS is at least as effective as basal

instruction in improving those aspects of writing.

None of the children showed significant improvement from pre- to posttest on the thematic maturity subtest, and neither group improved significantly more than the other. These results are noteworthy. Even though 20% of instructional time during basal intervention was dedicated to direct instruction of elements of a story (i.e., modeling and independent practice on identifying characters, setting, events, etc.), the basal group, like the CRS group made no gains in thematic maturity of writing.

#### Summary of Interpretation of Results

Several overall findings of the present study warrant discussion. First, all children showed significant improvement from pre- to posttest on all measures used in the study except the retelling task (reading comprehension) and the thematic maturity subtest (writing ability). One possible explanation for this finding is that the two reading interventions used in this study, basal and CRS, are effective instructional techniques contributing to children's reading and writing learning.

A second explanation is that small group instruction (as opposed to the large group instruction received in the regular classroom) in and of itself holds the advantage, regardless of the remediation technique used. Because the children were grouped homogeneously across the entire third grade for daily reading instruction, each group size (low,

middle, and high) was between 20 and 25 children. Therefore, all children identified as low level readers (approximately 23) were instructed in one large group with no subgroups created. This type of instruction was also employed for the middle and high groups. However, the instructional group size in the present study was 4-5 children. It is certainly not unexpected that all would show marked improvement in performance due to group size alone. The fact that less able students benefit from close teacher supervision is well documented (Anderson, Hiebert, Scott, & Wilkinson, 1985).

Another possible explanation for the finding that all children improved significantly on almost all of the tasks is the notion that the children knew they had been chosen for a special study, in which they were able to leave the classroom each day and receive special attention (Hawthorne effect). Because they enjoyed this experience, and wanted to please the instructor, performance may have been enhanced.

A final possible explanation for significantly improved performance for all children across nearly all the tasks is maturation over the four week period. This explanation cannot be discounted since children at this age level are still learning at a fairly rapid rate, as opposed to the slower progress shown by older children.

A second overall finding that warrants attention is that the CRS group showed significantly more improvement than

the basal group from pre- to posttest on passage comprehension questions. This result is powerful for two reasons. First, the CRS group received no practice on answering comprehension questions, whereas at least 40% of the basal group's instruction consisted of such practice. Second, passage comprehension ability was assessed on stories other than those used during instruction. Therefore, the effects of CRS were observable on passages unfamiliar to the children. These results provide empirical evidence for the superiority of CRS over basal instruction with language disordered children in effecting changes in reading comprehension.

The third overall finding that is of importance is that on every task except retelling ability, the trends favored the CRS group. That is, the CRS group's mean gain scores were higher, though not significantly higher, than the basal group's mean gain scores on every task except one. These findings suggest that if sample size or length of intervention were increased, perhaps these trends would reach significance.

The fourth overall finding of interest is that the basal group's direct instruction of lower level skills (word recognition and comprehension questions) did not hold the advantage over higher level processing intervention. These results suggest a "trickle down" effect. That is, even though the instruction provided through CRS was on a higher



level of language processing than that used during basal instruction, the CRS group performed at least as well as the basal group on one of the lowest level tasks (word recognition) and significantly better than the basal group on another lower level task (passage comprehension questions). These findings suggest that poor readers may not need direct instruction of lower level tasks in order to improve in those abilities. On all tasks, CRS was at least as effective as basal instruction.

#### Limitations of the Study

The results of this study are encouraging in terms of providing qualified support for the efficacy of an alternative approach to reading that may benefit a substantial number of children who struggle with the language demands of classroom activities. However, the study itself and the implications of the results are not without limitations.

First, the failure to achieve statistically significant interactions between time and group for almost all of the dependent measures limits the interpretation of the results as well as the implications of the study. Although it is encouraging that the trends on all measures favored the CRS group, all nonsignificant findings should be interpreted with caution.

A second limitation of the study is sample size. Because the sample was relatively small, the power of the

statistical tests was reduced. That is, statistically, it was more difficult to achieve a significant interaction using a small sample. Therefore, the researcher is more assured that the interaction that reached significance can be generalized to the population. However, for those interactions that did not achieve statistical significance, it is difficult to determine whether the failure to achieve significance should be attributed to no real differences between the effects of CRS and the effects of basal reading instruction, or to the small sample size.

Third, the extremely low alternate form reliability coefficients obtained on the retelling task and the story telling task render the interpretation of those results considerably limited.

Fourth, because the study was conducted with third graders only, the generalization of the results is limited to that grade level.

A fifth limitation of the study concerns the implementation of CRS instruction. There are two aspects of CRS that may present difficulties with implementation in the regular classroom setting. First, CRS instruction is based on communication principles that may be inherently obvious, but not practically understood by many teachers. That is, because the application of these principles occurs with ease for a person whose language system is semantically organized, CRS strategies may be viewed as overly attentive to transitions, cohesive ties, implied information, and

temporal and spatial relationships that are easily and unconsciously comprehended by the able reader. Therefore, the effective implementation of CRS requires at least a minimal understanding of and sensitivity to the needs of language disordered children. Second, the fluent implementation of CRS strategies requires practice. The techniques are not quickly or easily learned and can be initially frustrating to the facilitator. Therefore, teachers who are interested in incorporating CRS into their reading programs must be willing to dedicate a reasonable amount of time and effort in order to become proficient at its implementation.

#### Implications for Instruction

This study predicted that for children with disordered language systems, a skill based approach to remediation, such as traditional basal reader instruction, would not be as effective as one that is semantic based, such as CRS. Though that prediction was not substantiated except in the case of improving the ability to answer passage comprehension questions, basal instruction did not hold the advantage over CRS instruction on any measure of reading, oral language, or writing ability used in this study. Moreover, the trends on every measure (except the retelling task) favored the CRS group. That is, the CRS group showed more improvement, though not significantly more improvement on almost all measures.

If oral language strategies and reading ability are acquired in an integrated rather than a discrete manner, then instruction should be provided that involves all components of the integrated system, linguistic, social, and cognitive. When effective communication is the goal of instruction, then language (linguistic aspects) must be used to communicate information (cognitive aspects) to another person (social aspects). Skill based instruction usually focuses on only one of these components at a time, without consideration for the importance of the others. Perhaps educators should consider semantic based instruction, such as CRS, as an alternative remedial reading approach with language disordered children.

Also, because CRS was shown to be at least as effective as basal instruction on all measures, teachers need to reevaluate the need for direct isolated skill instruction. The weekly instructional activities used with each group in this study provide some insight into this suggestion. According to the teacher's manual for the basal reader, two days of each week were spent preparing to read the story (working with charts, worksheets, and workbooks focused on word study skills, vocabulary instruction, and story element skills), and one day of each week was dedicated to a comprehension check (including oral and written response to comprehension questions), and a review of skills previously learned. Only two days of the week were actually spent

reading the story, and a substantial portion of that time was dedicated to answering questions after having read a few pages.

In contrast, the CRS group spent the entire week actually reading and processing the language of the story, with the purpose of comprehending, interpreting, and evaluating the message of the author. That is, all instructional time was dedicated to communication between the author and the reader, facilitated by the instructor. The results of the present study create questions about the value of dedicating time to isolated skill instruction.

Although the most important implications of this study concern an alternative approach to reading instruction for language disordered children, the results of the screening procedures used to identify the sample, and the results of the pretests used to establish baseline abilities provide some important implications for teacher awareness.

First, the scores on the language development test used to identify the sample revealed that 28 of 72, or 39% of all third graders attending the selected elementary school were identified as having language deficiencies, that is, scoring below the national mean (100) on the TOLD-2 I (Hammill & Newcomer, 1988) or the TOLD-2 P (Newcomer & Hammill, 1988). Only four of these identified children scored within one standard deviation (15 points) below the mean, with 18 (or 25% of all third graders) scoring between one and two standard deviations below the mean, and six children scoring

at least two full standard deviations below the mean.

Second, the scores obtained on the reading inventory used to identify the sample revealed that 28, or 39% of all third graders at the selected school, could not independently read a passage on a second grade readability level (Fry, 1977). Three of these children were reading independently at the first grade level, and the remaining 25, or 35% of all third graders, were reading independently at the primer level or below.

Third, the scores obtained on the reading inventory used for pretesting revealed that only two of the 28 children included in the sample were reading at the third grade instructional level, with 10 (or 14% of all third graders) reading at the second grade instructional level. The remaining 16 children, or 22% of the third grade, were reading at the first grade instructional level or below.

And finally, the population from which the sample was drawn reflected several socioeconomic levels. If participation in free lunch is used as an indicator of socioeconomic level, only 29 (or 40%) of all children in the third grade at the school selected for the study were on free or reduced lunch. The remaining 60% paid for their lunches.

In light of the socioeconomic characteristics, reading abilities, and language development of the children included in the sample, at least two conclusions can be drawn. First,

language and reading problems are not restricted to one social class. The sample was drawn from a population of which more than half of the members were considered middle class or above. Yet 24 (or 33% of the population) scored at least one full standard deviation below the mean on a test of language development. Moreover, all 28 in the sample (or 39% of the population) were reading independently at or below the first grade level, and 26 (or 36% of the population) scored at least one full grade level below placement on instructional reading level at pretest. Therefore, teachers should not assume that because a child comes from a middle class home potentially providing rich literacy experiences, the child will not experience language or reading problems. Language disorders seem to have no particular preference for any one social class.

Second, because the public school chosen for this study is typical in terms of racial and socioeconomic composition, class size, special education classes (learning disabled and gifted), library, music, guidance, physical education, and computer classes for all children, it is not unlikely that equally high percentages of language disordered and reading disabled students could be found in most elementary school settings. Therefore, teachers should be aware that it is highly possible that between 25% and 40% of the children in their classrooms may be in need of language and reading remediation.

### Suggestions for Future Research

The results of this study indicate several suggestions for future research. First, because statistical significance was not achieved on most of the dependent measures and the sample was relatively small, future studies using larger samples may provide more conclusive answers to the questions posed in this study.

Second, because this is the first study examining the efficacy of CRS with language disordered children (an earlier study employed CRS with adult aphasics), future research conducted with children older and younger than third graders is indicated. Examining the effects of CRS on language disordered prereaders and beginning readers might be especially valuable to educators of young children. Moreover, research investigating the potential benefits of CRS with college students in developmental reading classes would be of interest to educators of this population.

Third, this study compared the effects of CRS to the effects of only one other program of instruction, the traditional basal reading program. Studies examining the effects of CRS as compared to the effects of other kinds of reading programs such as literature-based programs and computer assisted programs are indicated.

Fourth, because the intervention period in this study was relatively short, studies conducted over a longer period of time might provide insights into the value of continued exposure to CRS.



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## APPENDIX A

### Principles for Communicative Reading Strategies

## Principles for Communicative Reading Strategies

### 1. Providing Preparatory Sets

Preparatory sets are provided throughout the reading to orient the reader to the content and intent of the author's message. Picture cues are pointed out when necessary, pointing back and forth between the picture and the word in the text referring to the picture. The text used for these examples is taken from "Peter's Brownstone House", (Colman, 1989), a story in the 3<sup>rd</sup> basal reader of Scott, Foresman, and Company (1989b).

TEXT: The stairway, with its smooth, dark wood, was wide and graceful.

FACILITATOR: This tells you the part of the house  
(pointing back and forth from the picture of  
the stairs to the words "the stairway")

STUDENT: The stairway...

FACILITATOR: and this tells you how the wood on the  
stairway felt and looked....

STUDENT: .. smooth, dark wood...

### 2. Reacting to the Truth Value

Instead of reacting to the way in which the information was read by the student (i.e., "You certainly read that beautifully"), the facilitator reacts to the truth value of what was read. In this way the importance of what the student has read, rather than the manner in which it was read, is acknowledged by the facilitator.

TEXT: The people who built the house wanted it to last for many, many years.

S: The people who built the house wanted it to last for many, many years.

F: Yes, those people who built the house many years ago used the best materials available, and built the house very carefully. They probably spent a lot of time making sure that every part of the house was put together very carefully, so that it would not fall apart or break down even if there was bad weather or

lots of kids running in and out over the years.

If the student reads the text correctly, but with some hesitation or faltering, the portion of text that was difficult is restated in a variety of ways.

TEXT: "Nothing is the way it used to be," he grumbled.

S: "Nothing is the way it used to be," he gar...gam..grumbled.

F: I can see that he is not happy with the way things are today. He is complaining, grumbling about the new apartment buildings, and the new paved streets. He liked things the way they used to be, many years ago, when he was a boy. He was almost growling like a dog, and it sounded like a deep, long, rolling sound.... a grumble. Yes, he really was grumbling because things had changed so much. So, tell me about that again.

S: "Nothing is the way it used to be," he grumbled.

If the student actually communicates an untruth due to a miscue, the facilitator still reacts to the truth value.

TEXT: Peter, however, hated the old house.

S: Peter, however, hated the old horse.

F: He hated the old horse? Wait, I thought he was talking about where he lives. The picture shows him inside the place he lives, not riding a horse. This tells you that he hated the place where he lives.

S: Peter, however, hated the old house.

If the student communicates an untruth due to a grammatical error, the facilitator again reacts to the truth value and attempts to repair the miscomprehension.

TEXT: Now they were facing the river.

S: Now they was facing the river.



F: Well, it's not that just one of them was facing the river. Both Grandpa and Peter were facing the river. They were both facing the river. Grandpa was facing the river, and Peter was facing the river. Both of them were facing the river.

S: Now they was facing the river.

F: Not just one of them was facing the river. Both were facing the river. Both Grandpa and Peter were facing the river.

S: Now they were facing the river.

### 3. Establishing Cohesion

Cohesive ties are particularly troublesome for children with language processing problems. Therefore, the facilitator establishes cohesion by pointing back and forth between the cohesive markers and their referents in previous sentences while stating the relationship. Both words are used in a variety of ways.

TEXT: Inside, the rooms were large, with high ceilings. Almost every one had a fireplace. Many of them had glittering lamps that were lighted with hundreds of tiny candles.

S: Inside, the rooms were large, with high ceilings.

F: This is going to tell you that there was something to provide warmth in most of the rooms.

S: Almost every one had a fireplace.

F: Yes, almost every room, every one of the rooms, had a fireplace (pointing back and forth in the text between rooms and one). The rooms were the ones that had fireplaces.

S: Many of them had glittering lamps...

F: Yes, many of the rooms, them, the rooms, (pointing back and forth in the text between them and rooms) had lamps with sparkling light, glittering light. The rooms themselves had the lamps. It was the rooms, almost all of them that had glittering lamps.

- S: ...that were lighted with hundreds of tiny candles.
- F: Oh, the lamps were glittering because they had hundreds of tiny candles in them, I see. It was the lamps that were lighted (pointing back and forth between lamps and that) with the candles. Now, tell me about that.
- S: Inside, the rooms were large, with high ceilings. Almost every one had a fireplace. Many of them had glittering lamps that were lighted with hundreds of tiny candles.

#### 4. Reducing Complexities

If the idea being communicated by the author is complex and entails many relationships among actions, agents, and objects, occurring across time and space, the facilitator reduces the complexity by establishing the most basic situations or events, and then adding the subordinate, or supporting information. Sometimes this requires reading parts of the sentence in a different order than they actually occur in the text, so that relationships can be established logically.

- TEXT: Every time Peter passes the apartment house across the way, he waves to the jolly doorman.
- F: This tells you what Peter does.
- S: waves
- F: This tells you who he waves to.
- S: doorman
- F: Yes, but this doorman is special. There is something special about this doorman...he's especially happy.
- S: the jolly doorman
- F: Yes, so tell me about that
- S: he waves to the jolly doorman
- F: And this tells you where the jolly doorman is
- S: the apartment house

- F: Yes, and this tells you where that apartment house is
- S: across the way.
- F: Oh, I see. The apartment house is across the way, across the street, across the way. The way that the cars travel and the people walk. And this tells you how often Peter waves at the jolly doorman.
- S: Every time Peter passes
- F: Yes, everytime Peter goes past the apartment house he waves. So, tell me about that.
- S: Every time Peter passes the apartment house across the way, he waves to the jolly doorman.

### 5. Establishing Transitions

When the text uses language that implies movement across time and space without specifically stating the movement, the reader is expected to infer the change. Many poor readers and language disordered children are unable to make this inference. So the facilitator establishes the transition for them.

- TEXT: "Let's go for a walk," he said to Peter. Everywhere they looked on the street, old houses were being torn down. New houses were going up.
- F: After Grandpa said, "Let's go for a walk," Peter agreed. So they left their house after a little while and began to walk down the street. They walked and walked and looked around them. This tells you what they saw.
- S: old houses.

### 6. Clarifying Implicatures

When meaning is only implied in the text, and is not explicitly stated, then the facilitator supplies the implied meaning, through repetition of the implicature itself and explanation of what it means. Implicatures can also be clarified by providing preparatory sets for the child before he encounters the implicature.

- TEXT: They started to cross the street. The police officer blew her whistle. "Watch the lights," she called to them.  
Grandpa took Peter by the hand. "My mind was way back in the past."
- S: They started to cross the street. The police officer blew her whistle. "Watch the lights," she called to them.
- F: Yes, when the police officer saw that Grandpa and Peter were about to cross the street; she tried to warn them that it was not time to cross. She blew her whistle and told them to look at the red and green lights so they would know when the traffic was moving. She was letting them know that they must be careful and they must pay attention to the signal lights. So now, this tells you what Grandpa did after the police officer warned them.
- S: Grandpa took Peter by the hand. "My mind was way back in the past."
- F: Yes, Grandpa was thinking about the way things were many years ago, and not thinking about crossing the street. After the police officer blew her whistle and warned them to watch the lights, Grandpa knew he must pay attention to the signal lights, and take Peter's hand to protect him. He explained to Peter why he had not noticed the lights, because he was thinking about the way things were years ago.

## 7. Clarifying Metaphors and Idioms

Metaphoric and idiomatic expressions are sometimes interpreted literally by the reader with language problems. The facilitator provides more information so that the reader can comprehend the underlying message being conveyed by the author.

- TEXT: The police rode on bicycles to keep an eye on things.
- F: And this tells you why the police rode on bicycles.
- S: To keep an eye on things.

- F: Yes, the police didn't really have to stop traffic because there weren't any cars or trucks, but they did have to know what was going on. They could travel more quickly on bicycles than on foot, and they would ride around and watch what was going on, keep an eye on things, make sure there were no disturbances. So they would always watch very carefully, keep an eye on things, to protect those people who were obeying the laws, and stop those people who were breaking the laws.
- S: The police rode on bicycles to keep an eye on things.

#### 8. Using Visual Cues when Necessary

Many times the child understands the meaningful difference between two words, but is unaware of the production difference between what he is saying and the actual pronunciation. In this case, the facilitator directs the child's attention to the visual cues in the word, so that the child can see the difference.

TEXT: It was quiet and peaceful here.

- S: It was quite and peaceful here.
- F: It was quite and peaceful? I don't think a place can be quite. The place can be one that has very little noise, maybe only very soft sounds. It can be very...
- S: quite
- F: Let's look at how these words are different (write quiet and quite). This is quiet. See, it has two parts "qui" and "et" (covering and uncovering the first and second syllables).
- S: It was quiet and peaceful here.

CRS will adhere to the abovementioned principles during oral reading of the text. Periodically, each student will be asked to "Tell me about that", which means "Read that to me" or "Tell him about that" which means "Read that to your friend". Through group interaction, and reiteration by the acilitator, the meaning of the text, or the message conveyed by the author will be simplified when necessary, and then reconstructed in order to ensure maximum comprehension of the text by the reader.

## APPENDIX B

### Comprehensive Assessment Program

Internal Consistency Reliability  
Construct Validity

Comprehensive Assessment Program (CAP)

Internal Consistency Reliability Coefficients  
Kuder-Richardson Formula 20  
Level 7A  
Grade 2  
N = 446

Subtest	No. of Items	Reliability
Word Attack	30	.93
Vocabulary	30	.95
Reading Comprehension	35	.95
Reading Total	65	.97
Spelling	14	.88
Capitalization/ Punctuation	20	.88
Grammar	10	.89
Language Total	44	.95

Comprehensive Assessment Program (CAP)

## Construct Validity

## Subtest Intercorrelation Data\*

Level 7A

Grade 2

N = 446

Subtest	1	2	3	4	5	6	7	8	9	10
1 Word Attack										
2 Vocabulary	71									
3 Reading Comprehension	70	84								
4 Reading Total	73	95	97							
8 Spelling	59	57	55	58						
9 Capitalization/ Punctuation	59	62	64	66				49		
10 Grammar	60	65	66	68				68	50	
11 Language Total	70	72	72	75				86	83	80

\* Decimal points omitted



APPENDIX C

Comprehensive Assessment Program (CAP)

Normal Curve Equivalent (NCE) Scores

Comprehensive Assessment Program (CAP)

## Normal Curve Equivalent (NCE) Scores

ID	NCE Score	
	Total Reading	Total Language
01	32	42
02	48	38
03	40	47
04	15	45
05	19	34
06	34	27
07	46	41
08	38	42
09	48	45
10	44	49
11	41	42
12	47	42
13	36	36
14	35	19
15	53	42
16	44	65
17	34	52
18	01	20
19	40	32
20	43	42
21	44	49
22	44	38
23	49	83
24	49	47
25	46	65
26	42	52
27	34	32
28	34	52
29	41	65
30	63	49
31	24	52
32	63	34
33	54	47
34	67	41
35	36	56

APPENDIX D  
Basic Reading Inventory  
Form B Independent Reading Levels

Basic Reading Inventory  
Form B Independent Reading Levels

ID	Independent Reading Level
Ø1	2
Ø2	1
Ø3	1
Ø4	1
Ø5	3
Ø6	1
Ø7	2
Ø8	1
Ø9	2
10	1
11	1
12	1
13	2
14	1
15	1
16	2
17	4
18	3
19	1
20	1
21	1
22	1
23	1
24	4
25	4
26	2
27	1
28	1

---

Note: 1 = Below Preprimer  
 2 = Preprimer  
 3 = Primer  
 4 = Grade 1

## APPENDIX E

### Test of Language Development-2 (TOLD-2 I) and (TOLD-2 P) Spoken Language Quotients

Test of Language Development (TOLD-2 I) and (TOLD-2 P)

## Spoken Language Quotients

ID	Quotient
Ø1	75
Ø2	86 (P)
Ø3	84 (P)
Ø4	83
Ø5	83
Ø6	89 (P)
Ø7	75
Ø8	74
Ø9	75
10	72
11	65
12	94
13	82
14	91
15	60
16	75
17	77
18	74
19	71
20	84 (P)
21	70
22	67
23	77
24	79
25	74
26	72
27	64
28	67

---

Note: (P) = TOLD-2 P score

APPENDIX F

Basic Reading Inventory

Form C Grade 4 Passage  
(Substituted and Revised from Form B)

Basic Reading Inventory

Form C Grade 4 Passage  
(Substituted and revised from Form B)

## The Plant World

The world of plants is an exciting one. There are over three hundred thousand different kinds. Some plants grow bigger and live longer than animals. Plants grow in many sizes and shapes almost everywhere in the world. Some are smaller than the period at the end of this sentence. These plants can only be seen with a microscope. Other plants, like the giant pine, tower high in the sky. Most plants have stems and leaves. Plants can live in a variety of places. Some seem to grow out of rocks and others live in water, old bread, and even shoes.



## APPENDIX G

### Basic Reading Inventory

Form A Preprimer Passage (revised)  
Form A Grade 4 Passage (revised)

Basic Reading Inventory

## Form A Preprimer Passage (revised)

## Walk in the Fall

It was fall. Pat went for a walk. She took her dog Sam. They liked to walk. They walked for a long time. They saw trees. Some were red. Some were green. They were pretty. Pat saw birds. Sam saw birds, too. Sam did not run after them. He was nice.

Basic Reading Inventory

## Form A Grade 4 Passage (revised)

## The Forest Fire

The summer was a dry one, unusual for this area. Trees and bushes in the forest wilted and died. One afternoon a storm came to the forest. Thunder was heard, lightning was seen, and it began to rain. A spark touched the leaves and a fire began. The fire spread quickly. The animals warned each other as they hurried to escape the flames. As the fire came closer, trees with branches of yellow, orange, and red fell to the ground. The smoke was so thick that the animals could hardly breath. Many couldn't escape the danger of the flames.

APPENDIX H  
Test of Inferencing Ability  
Forms A and B

Test of Inferencing Ability

## Form A

## "Lights Out" (Rivera, 1989)

TEXT: "I'm excited!" Ana said. "This is my first camping trip. My first time in a tent."

"We left early so we will have time to explore the campgrounds before we eat," said Aunt Maria. She had the maps on her lap and read the directions to Mom. Soon we were far out of the city.

Mom began singing, "There's a bee, there's a bee, there's a bee on a tree." Aunt Maria and I joined in.

We went singing along, passing farms and houses. Soon there were no houses, only trees. At last, we came to the campgrounds.

- \_\_\_\_\_ 1. Do you think Mom and Aunt Maria had ever been to these campgrounds before? What makes you think so?  
(No, because they needed a map)
- \_\_\_\_\_ 2. Why do you think they begin singing on the trip?  
(To pass the time; because they were happy and carefree)
- \_\_\_\_\_ 3. How do you think they got to the campgrounds? What makes you think so?  
(Car; van; because Aunt Maria was reading the map; because you can't go to a campground on a plane or train; because you can't carry your stuff if you walk or ride a bicycle)
- \_\_\_\_\_ 4. Who do you think was driving the car? Why do

you think so?

(Mom; because Aunt Maria was reading the map;  
because Ana is too young to drive)

TEXT: We walked to a clearing down a path set off on both sides with white rocks. There were trees all around us. We watched the rocks so we would stay on the path and not get lost. Sometimes we had to walk around large rocks or trees that had fallen.

At the camp, other people were setting up their tents. Each family had a picnic table and a circle of rocks for a fire.

We set up our tent and went exploring down the path. I was feeling small among the giant trees. Everything looked so different without houses or stores as we would see at home.

- \_\_\_\_\_ 5. What are two reasons that you think each family needed a fire?  
(To cook; to keep warm; to provide light)
- \_\_\_\_\_ 6. Why do you think each family put a circle of rocks around the place where they would build a fire?  
(So the fire wouldn't spread; for safety; camp rules)
- \_\_\_\_\_ 7. What do you think caused the trees to fall on on the path?  
(Wind; storm; weakened by insect damage)

TEXT: By the time we got back it was dark. After dinner we put the dishes away and sat next to the fire. I was tired but really excited.

"Mom," I asked. "Can we explore at night?"

"Great idea!" Mom said, "Get the light."

I took Mom's hand. Aunt Maria went first since she had the light. She pointed at a shape in the shadows and said, "The shadows of that fallen tree look like a giant bear."

"They do," Mom said. "And let's listen to the sounds of the night. It's not a bear, but I wonder what animal is making that awful, loud, calling sound?"

- \_\_\_\_\_ 8. Why do you think Ana held her mother's hand?  
(She was scared; she didn't want to get lost)
- \_\_\_\_\_ 9. What do you think was making the loud noise?  
(An owl; a wolf; an animal calling out at night)

TEXT: I could not see a thing. I hoped what was making the sound I heard was far, far away.

Aunt Maria started to say, "Look at that shadow over ...." but she didn't finish, because just then the light went out.

"We'll go back the way we came," Mom said. "Now that we can't see, we'll feel with our feet to find the rocks that had fallen on the path, and don't forget there are rocks on the side of the path to help us."

"Let's hold hands. That way we'll stay together in the dark," added Aunt Maria.

I was really afraid. I hoped we could stay on the path since we could not see.

"Oh!" I heard Mom cry out. "I walked into a low branch and hit my face. Don't forget to hold out your hands to feel for branches so they don't hit you too," Mom said.

"Wait!" I said. I had tripped and fallen. I got up, and the three of us began feeling our way again.

At last we heard voices. We called out for help and another camper came over with a light. Now I knew we were going to be all right. We borrowed a light so we could return to our tent where we had an extra.

I never thought I would be so excited to see a little light.

- \_\_\_\_\_ 10. What do you think Ana tripped on?  
(A branch; a rock; a log)
- \_\_\_\_\_ 11. Where do you think the voices were coming from?  
(the campsite; other people in the woods ahead of them)
- \_\_\_\_\_ 12. What do you think Ana meant by "an extra"?  
(flashlight)
- \_\_\_\_\_ 13. Why do you think Ana was so excited over seeing a little light?  
(because she had never been without light so long, and didn't realize how much she would miss it; she was scared she would never find her way back)



Test of Inferencing Ability

## Form B

**"Chipmunk Crossing" (Herther, 1989)**

TEXT: Adam and David were chipmunks. They were good friends. They lived across the stream from each other. Together they had put a log across the stream as a bridge so they could visit each other. They visited every day.

Early one morning Adam heard a loud noise like a bump. He rushed to his window. He saw David taking acorns from the trunk where Adam stored his acorns for the winter. He saw David put the acorns in a sack.

- \_\_\_\_\_ 1. Why do you think David took the acorns?  
(He was lazy; he needed them in an emergency; he was hungry)
- \_\_\_\_\_ 2. Why do you think David put the acorns in a sack?  
(So Adam wouldn't see what he had taken; because they are easier to carry; so he wouldn't drop any)

TEXT: Adam did not understand! Was David taking his acorns? David was Adam's friend.

Later, Adam crossed the log bridge to David's house and looked in the window. David was enjoying tea and acorns while chatting with another chipmunk. Adam knew the acorns were the ones David had taken.

Adam was disappointed! He was more than

disappointed. He felt awful, and he was angry! Adam was so angry that he ran back across the log. Then he pushed and bumped the log until it fell into the stream.

"There!" he said and went home to sulk.

- \_\_\_\_\_ 3. What did Adam think David was doing?  
(stealing the acorns)
- \_\_\_\_\_ 4. Who do you think the other chipmunk was?  
(a friend; a relative)
- \_\_\_\_\_ 5. Why do you think Adam was disappointed?  
(He thought that a true friend wouldn't steal)
- \_\_\_\_\_ 6. Why do you think Adam pushed the log bridge  
into the stream?  
(He was angry; he didn't want Adam to steal  
anymore; he didn't want to be friends with a  
thief)

TEXT: For the next week, Adam sulked. He had his tea and ate his acorns by himself. He was disappointed and missed David. But David was no longer his friend.

Then, early one morning Adam heard a bump and then a knock at his door.

"Hello," said a beaver. "I am looking for work. Do you have any work for me?"

"Yes, I do," said Adam. "Come in."

He told how David had taken his acorns. "I want you to build a tall fence all around my yard. And I want you to put a lock on the trunk where I keep my acorns. Can you do that?"

- \_\_\_\_\_ 7. Why do you think Adam wanted the beaver to build a tall fence around his yard and put a lock on his trunk?  
(To prevent David from stealing anymore)

TEXT:           The beaver said, "Yes, I understand what you want, and I think I can help you."

              "Good," said Adam. "I have to go into town for the day. You may begin the fence while I am away."

              When Adam returned, he saw no sign of a fence. He looked at his trunk. There was no lock. Adam was disappointed. "There must be some mistake," he thought as he sulked inside to make some tea.

- \_\_\_\_\_ 8. Why do you think Adam wanted the beaver to begin building the fence while he was away?  
(construction is noisy; didn't want David to steal while he was in town)
- \_\_\_\_\_ 9. When Adam returned, what do you think he thought of the beaver?  
(that he was lazy; irresponsible; undependable)

TEXT:           While Adam was having tea, he heard a knock. Then David rushed in with a sack.

              "I knew we were still friends! I just knew it. My cousin came to visit me," said David.  
              "I was out of acorns. Since we are such good friends, I knew it would be all right if I borrowed some of yours while you were sleeping. I brought you new acorns."

David gave Adam the sack of acorns. "I saw you push our log into the stream," he said. "I thought you were angry because I borrowed your acorns. When I saw the new bridge, I knew you were not angry. I love your sign too."

- \_\_\_\_\_ 10. Why do you think David did not ask Adam for the acorns?  
(Adam was sleeping and he didn't want to disturb him, but he needed the acorns immediately)

TEXT: Bridge? Sign? Adam thought. What in the world was David talking about?

After David left, Adam went to the stream. There was a beautiful new bridge. On the bridge, was a sign that read CHIPMUNK CROSSING.

Adam smiled. Yes, he thought, the beaver did understand what I wanted. It is good to have a friend.

- \_\_\_\_\_ 11. Do you think Adam had seen the new bridge before David came to visit? What makes you think so?  
(No, because he didn't know what David was talking about)
- \_\_\_\_\_ 12. How do you think the new bridge got there? What makes you think so?  
(The beaver built it; because he likes to make things with wood)
- \_\_\_\_\_ 13. What did Adam mean when he thought, "The beaver did understand what I wanted."  
(The beaver knew that Adam was upset about his feelings toward David, and wanted to help mend the friendship)

APPENDIX I

Norris Story Telling Task

Pictures Used for Forms A and B

Norris Story Telling Task

## Pictures Used for Form A



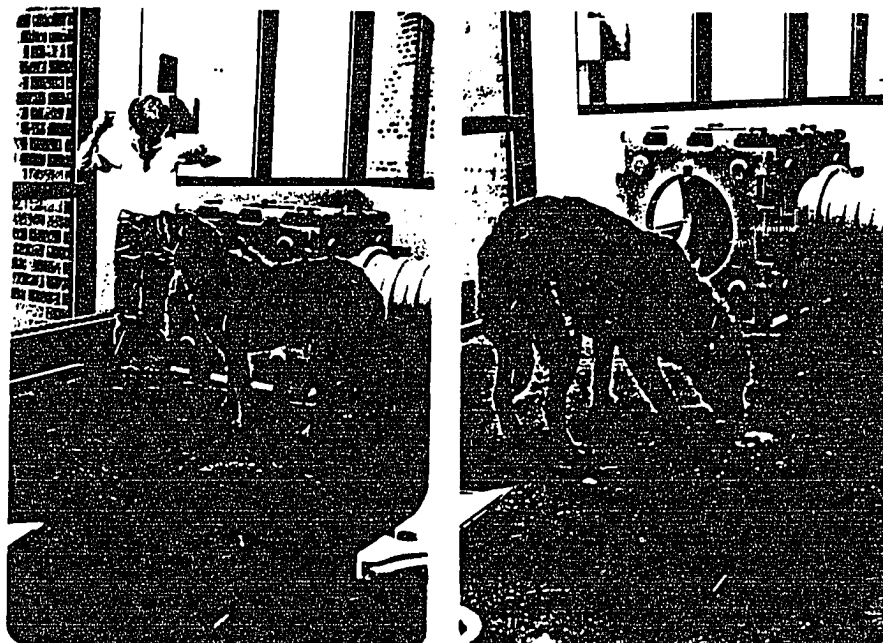


Norris Story Telling Task

## Pictures Used for Form B







APPENDIX J

Retelling Task

Procedures for Administration  
Forms A and B

Retelling TaskProcedures for Administration  
Forms A and B

1. The child will be asked to read orally the Grade 3 passage of Form A or Form C of the Basic Reading Inventory.
2. The child will be asked to tell the story to a puppet, and reminded to provide all the information the puppet will need to understand the story.
3. The subject will then tell the story without support of the written version. This recounting is the story scored according to the pragmatic criteria.
4. The following rules will be adhered to during the story telling to the puppet:
  - a. The examiner will not interrupt or ask questions until the subject appears to be finished.
  - b. If the subject pauses for a long period of time or appears to be abandoning the task, the examiner will provide a prompt. The prompt will not provide any new information, but rather will redirect the subject back to the task.
    - 1) Reinstruction. The examiner will reinstruct the child to tell the story.
    - 2) Repetition of the last proposition. The examiner will repeat the last proposition provided by the child to reorient his attention.
    - 3) Remark. An encouraging or confirming remark,

such as "OK" or "um hum" with eye gaze or other cues to continue the story.

- c. Allowable request for more information. If the child's retelling is very brief and incomplete, the examiner will prompt by saying, "Can you tell Duso (the puppet) anything else?"
- d. The purpose of the retelling is to evaluate the subjects ability to provide a complete and interpretable story, rather than to test recall. Therefore, no additional questions will be asked to elicit elaborations or recall of omitted information.

APPENDIX K

Norris Story Telling Task

Procedures for Administration  
Forms A and B

Norris Story Telling Task

Procedures for Administration  
Forms A and B

1. Each subject will be shown the series of seven photographs depicting a story sequence with events leading to a highpoint and conclusion. The subject will be informed that the pictures tell a story and that he/she will be required to tell a story that fits the pictures. Information that identifies the main character and gives the subject information essential to the story will be provided in the introduction.
2. The description and sequence of the photographs as presented is as follows:

"Look at these pictures. This is Jimmy (Form A)/ Tommy (Form B). Jimmy/Tommy is afraid of cats (Form A)/ dogs (Form B). The pictures tell a story. Can you tell me a story that fits the pictures?

Picture descriptions and sequence:

  - a. A child removing a carton of ice cream from a freezer compartment of a refrigerator.
  - b. An older child assisting in making ice cream cones.
  - c. Both children eating their ice cream cones on an outside porch (Form A)/ in a playroom (Form B).
  - d. A cat/dog approaching the children.
  - e. The younger child dropping his ice cream and presenting a stance suggestive of fear or surprise.

- f. The cat/dog eating the dropped ice cream.
  - g. The younger child with an expression suggestive of anger or disappointment.
3. The following rules will be adhered to during the viewing and telling of the pictured story:
- a. No assistance will be given initially in directing the story.
  - b. If the subject pauses for a long period or appears to be abandoning the task, the examiner will provide a prompt. The prompt will not provide any new information, but rather will redirect the subject back to the task.
    - 1) Acknowledgement. A neutral acknowledgement, such as "OK" or "um hum", followed by an expectant pause and eye gaze will be provided.
    - 2) Reinstruction. The examiner will reinstruct the child to look at the pictures and tell the story.
    - 3) Request for more information. If the student does not respond further to the story, a verbal prompt that does not add new information will be provided, such as, "Can you tell me what happened in the next picture?" or "Can you tell me anything else?".
4. The first four pictures will be displayed on contiguous pages. Before the showing of the final three pictures, the child will be asked to make a prediction about what

- was going to happen next in the story.
5. The final three pictures will be shown and the child will be asked an evaluative question, i.e., "Were you right? Why" and an inferential question, i.e., "How did the boy feel? Why?"
  6. Following the presentation of the picture sequence, the subject will be informed that he/she needs to tell the story to a puppet.
  7. The subject will then tell the story without support of the pictures. This recounting is the story scored according to the pragmatic criteria.
  8. The following rules will be adhered to during the story telling to the puppet:
    - a. The examiner will not interrupt or ask questions until the subject appears to be finished.
    - b. If the subject pauses for a long period of time or appears to be abandoning the task, the examiner will provide a prompt. The prompt will not provide any new information, but rather will redirect the subject back to the task.
      - 1) Reinstruction. The examiner will reinstruct the child to tell the story.
      - 2) Repetition of the last proposition. The examiner will repeat the last proposition provided by the child to reorient his attention.
      - 3) Remark. An encouraging or confirming remark,



such as "OK" or "um hum" with eye gaze or other cues to continue the story.

- c. Allowable request for more information. If the child's retelling is very brief and incomplete, the examiner will prompt by saying, "Can you tell Duso (the puppet) anything else?"
- d. The purpose of the retelling is to evaluate the subjects ability to provide a complete and interpretable story, rather than to test recall. Therefore, no additional questions will be asked to elicit elaborations or recall of omitted information.

## APPENDIX L

### Retelling Task

Procedures and Criteria for Scoring  
Forms A and B

### Retelling Task

#### Procedures and Criteria for Scoring Forms A and B

1. The story retold about the BRI Grade 3 passage (Forms A and C) will be audiotaped and transcribed.
2. The following pragmatic errors will be marked on the transcribed story:

Significant bit errors: The narrator fails to provide significant information about the person, time, or place of a reported event in the story.

Use of nonspecific vocabulary: Use of diectic expressions such as "this", "that", "he" when no antecedent has been provided. Also, the use of generic terms such as "thing" or "stuff".

Repetition of a proposition: Repeating, rewording, or paraphrasing information that has already been provided without adding new information.

Need for prompt or reinstruction: The child does not provide the information without prompting.

Message inaccuracy: A fact present or implied in the text is recounted differently in the story retelling.

Semantic inaccuracy: Information provided in the text is true, but only partially correct.

Lack of purpose: No highpoint or resolution is stated.

Failure to maintain theme: Thoughts are related that detract from the story.

Interjection of nontextual information: Comments on stimuli outside of the domain of the text.

False starts: A sentence is revised after it has been started.

Internal corrections: Words or phrases are replaced within a complete sentence.

Linguistic nonfluencies: Hesitations, long pauses, interjections such as "um", "uh".

Difficulty structuring narration: Events are presented out of order.

Failure to communicate propositional relationships: No use of embedded clauses or conjunctions to reflect temporal or causal relationships between events.

### 3. Marking errors on the transcribed story:

Significant bits error:	(-)
Nonspecific vocabulary:	(He)
Repetition:	~~~~~
Prompts:	[   ]    --
Message inaccuracy:	( M <sup>✓</sup> )
Semantic inaccuracy:	( S <sup>✓</sup> )
Purpose:	:P:
Theme/topic:	TX
Nontextual:	NTX
False starts:	<u>underline</u>
Internal corrections:	/   /
Nonfluency:	~~~~~
Structure/Sequence:	--: _

Relationship:

R

4. After each story is scored, errors will be transferred to a score sheet for tabulation. The subject's sentences will be numbered, and each assigned number will be placed next to the equivalent proposition outlined in the idealized story.
5. A checkmark will be placed within each appropriate category on the error grid for all errors contained within the subject's proposition.
6. Error ratios will be calculated by finding the ratio of the total number of errors made for each pragmatic variable per total number of propositions produced within the subject's story retelling.
7. Error ratios for significant bits will be calculated by finding the ratio of the total number of significant bit errors per total number of significant bits essential for a complete story (24 for Form A; 17 for Form B).
8. Error ratios for purpose will be calculated by finding the ratio of the total number of purpose errors per total number of purpose propositions essential for a complete story (2).
9. Error ratios for relations will be calculated by finding the ratio of the total number of relational terms omitted in obligatory contexts or used incorrectly in other contexts per total number of relational terms used.

10. All error ratios will be added together for a total error ratio to be used as the score on the test.

APPENDIX M

Retelling Task

Scoring Grids for Forms A and B

Retelling Task  
Scoring Grid for Form A

PRIMARY PROPOSITIONS	QUANTITY				QUALITY		RELATION			MANNER			
	SIGN. BITS	SPEC. VOC.	REPETITIONS	PROMPTS	MESSAGE INACC.	SEMANTIC INACC.	PURPOSE	THEME/TOPIC	NON-TEXT.	FALSE STARTS	INTER. CORR.	NON-FLUEN.	SEQUENCE RELATIONS
A. PRED: MAKING ARG: BEES-HONEY-ALL DAY LONG													
B. PRED: SLEEPING ARG: PERSON-CABIN/COT-NIGHT													
C. PRED: BECAUSE :RELATIONSHIP:													
D. PRED: MOVED/WENT ARG: PERSON-TO WINDOW													
E. PRED: HEARD ARG: PERSON-NOISE													
F. PRED: SAW ARG: PERSON-SHADOW													
G. PRED: BECAUSE :RELATIONSHIP:													
H. PRED: KNOCKED ARG: PERSON-WINDOW													
I. PRED: FRIGHTENED/SCARED ARG: SHADOW-PERSON													
J. PRED: BECAUSE :RELATIONSHIP:													
K. PRED: MOVED ARG: SHADOW-BACK/AWAY													
L. PRED: FOUND ARG: THEY-BEAR TRACKS-NEXT DAY													
M. PRED: WANTED ARG: BEAR-HONEY-ATTIC													



Retelling Task

## Scoring Grid for Form B

	QUANTITY				QUALITY				RELATION				MANNER			
PRIMARY PROPOSITIONS	SIGN. BITS	SPEC. VOC.	REPETITIONS	PROMPTS	MESSAGE INACC.	SEMANTIC INACC.	PURPOSE	THEME/TOPIC	NON-TEXT.	FALSE STARTS	INTER. CORR.	NON-FLUEN.	SEQUENCE	RELATIONS		
A. PRED: BECAUSE :RELATIONSHIP:																
B. PRED: WENT ARG: SALLY AND PARENTS-PET SHOP																
C. PRED: WANTED ARG: SALLY-DOG																
D. PRED: SAW ARG: SALLY AND PARENTS-POODLE/DOG																
E. PRED: BECAUSE :RELATIONSHIP:																
F. PRED: SAT UP/BEGGED ARG: PUPPY																
G. PRED: PETTED ARG: SALLY-PUPPY/POODLE/DOG																
H. PRED: BECAUSE :RELATIONSHIP:																
I. PRED: LAUGHED ARG: PARENTS-AT PUPPY																
J. PRED: LOOKED ARG: PUPPY-CUTE																
K. PRED: BECAUSE :RELATIONSHIP:																
L. PRED: BOUGHT ARG: PARENTS-PUPPY																
M. PRED: LIKED ARG: PARENTS-PUPPY																
N. PRED: COULDN'T RESIST ARG: PARENTS/SALLY-PUPPY																

APPENDIX N

Norris Story Telling Task

Procedures and Criteria for Scoring  
Forms A and B

### Norris Story Telling Task

#### Procedures and Criteria for Scoring Forms A and B

The following procedures will be used for scoring the task:

1. The story told about the pictures will be audiotaped and transcribed.
2. The following pragmatic errors will be marked on the transcribed story:

Significant bit errors: The narrator fails to provide significant information about the person, time, or place of a reported event in the story.

Use of nonspecific vocabulary: Use of diectic expressions such as "this", "that", "he" when no antecedent has been provided. Also, the use of generic terms such as "thing" or "stuff".

Repetition of a proposition: Repeating, rewording, or paraphrasing information that has already been provided without adding new information.

Need for prompt or reinstruction: The child does not provide the information without prompting.

Message inaccuracy: A fact present or implied in the text is recounted differently in the story retelling.

Semantic inaccuracy: Information provided in the text is true, but only partially correct.

Lack of purpose: No highpoint or resolution is stated.

Failure to maintain theme: Thoughts are related that detract from the story.

Interjection of nontextual information: Comments on stimuli outside of the domain of the text.

False starts: A sentence is revised after it has been started.


Internal corrections: Words or phrases are replaced within a complete sentence.

Linguistic nonfluencies: Hesitations, long pauses, interjections such as "um", "uh".

Difficulty structuring narration: Events are presented out of order.

Failure to communicate propositional relationships: No use of embedded clauses or conjunctions to reflect temporal or causal relationships between events.

### 3. Marking errors on the transcribed story:

Significant bits error:	(-)
Nonspecific vocabulary:	(He)
Repetition:	
Prompts:	[   ]
Message inaccuracy:	( M <sup>✓</sup> )
Semantic inaccuracy:	( S <sup>✓</sup> )
Purpose:	:P:
Theme/topic:	TX
Nontextual:	NTX
False starts:	<u>underline</u>
Internal corrections:	/   /

Nonfluency:



Structure/Sequence:

--:\_\_\_

Relationship:

R

4. After each story is scored, errors will be transferred to a score sheet for tabulation. The subject's sentences will be numbered, and each assigned number will be placed next to the equivalent proposition outlined in the idealized story.
5. A checkmark will be placed within each appropriate category on the error grid for all errors contained within the subject's proposition.
6. Error ratios will be calculated by finding the ratio of the total number of errors made for each pragmatic variable per total number of propositions produced within the subject's story retelling.
7. Error ratios for significant bits will be calculated by finding the ratio of the total number of significant bit errors per total number of significant bits essential for a complete story (17).
8. Error ratios for purpose will be calculated by finding the ratio of the total number of purpose errors per total number of purpose propositions essential for a complete story (2).
9. Error ratios for relations were calculated by finding the ratio of the total number of relational terms omitted in obligatory contexts or used incorrectly in

other contexts per total number of relational terms used.

10. All error ratios will be added together for a total error ratio to be used as the score on the test.

APPENDIX O

Norris Story Telling Task

Scoring Grids for Forms A and B

# Norris Story Telling Task

## Scoring Grid for Form A

PRIMARY PROPOSITIONS	SIGN. BITS	SPEC. VOC.	REPETITIONS	PROMPTS	MESSAGE INACC.	SEMANTIC INACC.	PURPOSE	THEME/TOPIC	NON-TEXT.	FALSE STARTS	INTER. CORR.	NON-FLUEN.	SEQUENCE	RELATIONS
A. PRED: GOT ARG: JIMMY-ICE CREAM-REFRIGERATOR														
B. PRED: MADE ARG: BROTHER/FRIEND-ICE CREAM CONES														
C. PRED: WENT ARG: THEY-OUTSIDE														
D. PRED: ENTER/SAW ARG: CAT-BOYS														
E. PRED: BECAUSE :RELATIONSHIP:														
F. PRED: DROPPED ARG: JIMMY-ICE CREAM														
G. PRED: SCARED ARG: JIMMY-CAT														
H. PRED: ATE ARG: CAT-ICE CREAM														
I. PRED: BECAUSE :RELATIONSHIP:														
J. PRED: BECAME ARG: JIMMY-MAD														
K. PRED: SCARED/ATE ARG: JIMMY-CAT/CAT-ICE CREAM														



# Norris Story Telling Task

## Scoring Grid for Form B

	QUANTITY				QUALITY				RELATION				MANNER			
PRIMARY PROPOSITIONS	SIGN. BITS	SPEC. VOC.	REPETITIONS	PROMPTS	MESSAGE INACC.	SEMANTIC INACC.	PURPOSE	THEME/TOPIC	NON-TEXT.	FALSE STARTS	INTER. CORR.	NON-FLUEN.	SEQUENCE	RELATIONS		
A. PRED: GOT ARG: TOMMY-ICE CREAM-REFRIGERATOR																
B. PRED: MADE ARG: BROTHER/FRIEND-ICE CREAM CONES																
C. PRED: WENT ARG: THEY-PLAYROOM																
D. PRED: ENTER/SAW ARG: DOG-BOYS																
E. PRED: BECAUSE :RELATIONSHIP:																
F. PRED: DROPPED ARG: TOMMY-ICE CREAM																
G. PRED: SCARED ARG: TOMMY-DOG																
H. PRED: ATE ARG: DOG-ICE CREAM																
I. PRED: BECAUSE :RELATIONSHIP:																
J. PRED: BECAME ARG: TOMMY-MAD																
K. PRED: SCARED/ATE ARG: TOMMY-DOG/DOG-ICE CREAM																

APPENDIX P  
Instructional Schedule

Instructional Schedule

Experimental Groups: 1, 3, and 5

Control Groups: 2, 4, and 6

Week Three (Story One)

	Mon.	Tues.	Wed.	Thur.	Fri.
8:50-9:20	1	2	3	4	5
9:25-9:55	2	3	4	5	6
10:00-10:30	3	4	5	6	1
10:35-11:05	4	5	6	1	2
11:35-12:05	5	6	1	2	3
12:10-12:40	6	1	2	3	4

Week Four (Story Two)

	Mon.	Tues.	Wed.	Thur.	Fri.
8:50-9:20	6	1	2	3	4
9:25-9:55	1	2	3	4	5
10:00-10:30	2	3	4	5	6
10:35-11:05	3	4	5	6	1
11:35-12:05	4	5	6	1	2
12:10-12:40	5	6	1	2	3

## Week Five (Story Three)

	Mon.	Tues.	Wed.	Thur.	Fri.
8:50-9:20	5	6	1	2	3
9:25-9:55	6	1	2	3	4
10:00-10:30	1	2	3	4	5
10:35-11:05	2	3	4	5	6
11:35-12:05	3	4	5	6	1
12:10-12:40	4	5	6	1	2

## Week Six (Story Four)

	Mon.	Tues.	Wed.	Thur.	Fri.
8:50-9:20	4	5	6	1	2
9:25-9:55	5	6	1	2	3
10:00-10:30	6	1	2	3	4
10:35-11:05	1	2	3	4	5
11:35-12:05	2	3	4	5	6
12:10-12:40	3	4	5	6	1

APPENDIX Q  
Observational Checklist

Observational Checklist

Date of Observation \_\_\_\_\_

Time of Observation \_\_\_\_\_

Type of Activity: (Check those that apply)

- \_\_\_\_\_ Children reading aloud from overhead transparency with teacher intervention
- \_\_\_\_\_ Children reading text silently
- \_\_\_\_\_ Children answering questions about text
- \_\_\_\_\_ Children and teacher discussing text
- \_\_\_\_\_ Children and teacher discussing picture
- \_\_\_\_\_ Children reading chart and discussing
- \_\_\_\_\_ Children working worksheet independently
- \_\_\_\_\_ Children and teacher discussing worksheet
- \_\_\_\_\_ Other ( \_\_\_\_\_ )

Check skill being taught directly through worksheets or charts:

- \_\_\_\_\_ Characters and setting
- \_\_\_\_\_ R-controlled vowels
- \_\_\_\_\_ Vocabulary development
- \_\_\_\_\_ Comprehension check
- \_\_\_\_\_ Steps in a process
- \_\_\_\_\_ Referents
- \_\_\_\_\_ Compound words and contractions
- \_\_\_\_\_ Drawing conclusions
- \_\_\_\_\_ Time sequence

- \_\_\_\_\_ Word origins or histories
- \_\_\_\_\_ Table of contents and index
- \_\_\_\_\_ Using the dictionary
- \_\_\_\_\_ Cause and effect relationships
- \_\_\_\_\_ Context and consonants

Check skill being taught in the context of the story:

- \_\_\_\_\_ Word meanings
- \_\_\_\_\_ Cause-effect relationships (because, so, for this reason, etc.)
- \_\_\_\_\_ Conditional relationships (if....then)
- \_\_\_\_\_ Temporal relationships (then, after, while, meanwhile, etc.)
- \_\_\_\_\_ Spatial relationships (there, here, where, etc.)
- \_\_\_\_\_ Establishing cohesion (it, they, them, she, the one, etc.)
- \_\_\_\_\_ Establishing transitions (teacher providing information about transition to a different time or place, when the text itself doesn't do so)
- \_\_\_\_\_ Clarifying metaphors (Ex: She was a peach!)
- \_\_\_\_\_ Clarifying idioms (Ex: "Don't pull my leg!")
- \_\_\_\_\_ Clarifying implicatures (Saying one thing and meaning quite another. Ex: Text says, "Why don't you find something to do?" Text means, "Stop bothering me!")
- \_\_\_\_\_ Reacting to the truth value (Ex: The child reads, "He was riding the house (horse)". Teacher responds, "Well, I'm not sure that you can ride a house" or "Oh, I thought we were reading about a horse, and you are telling me he was riding a house. I don't understand!")
- \_\_\_\_\_ Providing preparatory sets (Ex: "This tells you how he felt after he had finished the report.")

Circle the number that refers to the most appropriate description of this observation:

- 5 = Much better than average  
 4 = Better than average  
 3 = About average  
 2 = Worse than average  
 1 = Much worse than average

Exp. = experimental  
 group mean

Con. = control group  
 mean

- |  |   |   |   |   |   |                             |
|--|---|---|---|---|---|-----------------------------|
| 1. The teacher is enthusiastic.                                  | 1 | 2 | 3 | 4 | 5 |                             |
|  |   |   |   |   |   | (Con. = 4.8;<br>Exp. = 5.0) |
| 2. The children appear interested in the lesson.                 | 1 | 2 | 3 | 4 | 5 |                             |
|  |   |   |   |   |   | (Con. = 4.4;<br>Exp. = 4.8) |
| 3. The children are actively participating.                      | 1 | 2 | 3 | 4 | 5 |                             |
|  |   |   |   |   |   | (Con. = 4.6;<br>Exp. = 5.0) |
| 4. The lesson seems to be on an appropriate level of difficulty. | 1 | 2 | 3 | 4 | 5 |                             |
|  |   |   |   |   |   | (Con. = 4.6;<br>Exp. = 5.0) |
| 5. The teacher is meeting the individual needs of the children.  | 1 | 2 | 3 | 4 | 5 |                             |
|  |   |   |   |   |   | (Con. = 4.8;<br>Exp. = 5.0) |
| 6. The children are attending to the task.                       | 1 | 2 | 3 | 4 | 5 |                             |
|  |   |   |   |   |   | (Con. = 4.8;<br>Exp. = 5.0) |
| 7. The materials being used are appropriate for the lesson.      | 1 | 2 | 3 | 4 | 5 |                             |
|  |   |   |   |   |   | (Con. = 4.8;<br>Exp. = 5.0) |



- |  |                             |   |   |   |   |
|--|-----------------------------|---|---|---|---|
| 8. The instruction is systematic and organized.                  | 1                           | 2 | 3 | 4 | 5 |
|  | (Con. = 5.0;<br>Exp. = 5.0) |   |   |   |   |
| 9. The teacher is knowledgeable about the content of the lesson. | 1                           | 2 | 3 | 4 | 5 |
|  | (Con. = 5.0;<br>Exp. = 5.0) |   |   |   |   |
| 10. The teacher is warm and encouraging.                         | 1                           | 2 | 3 | 4 | 5 |
|  | (Con. = 5.0;<br>Exp. = 5.0) |   |   |   |   |
| 11. The teacher gives positive responses.                        | 1                           | 2 | 3 | 4 | 5 |
|  | (Con. = 5.0;<br>Exp. = 5.0) |   |   |   |   |
| 12. The teacher provides feedback.                               | 1                           | 2 | 3 | 4 | 5 |
|  | (Con. = 5.0;<br>Exp. = 5.0) |   |   |   |   |
| 13. The teacher models effective language and thought.           | 1                           | 2 | 3 | 4 | 5 |
|  | (Con. = 5.0;<br>Exp. = 5.0) |   |   |   |   |
| 14. The teacher appears interested in the lesson.                | 1                           | 2 | 3 | 4 | 5 |
|  | (Con. = 5.0;<br>Exp. = 5.0) |   |   |   |   |

## APPENDIX R

### Procedures for Basal Reading Instruction

### Procedures for Basal Reading Instruction

#### Day One: Preparing to Read

The skills (e.g., understanding character and setting) will be related to a concrete example (other than the story itself) whereby the pupils are asked to read about particular aspects of a story that they should attend to. They are then asked to actually read a short story and apply those skills by answering questions. Tips are provided at the end of the reading. Students are then asked to do an additional reading on a workbook page, and answer multiple choice questions focusing on the skill taught.

#### Day Two: Word Study Skills and Vocabulary

Word study skills are introduced (e.g., r-controlled vowel words) through the use of a chart accompanied by questions about the characteristics of the words shown in isolation. Then words reflecting the characteristic identified are included in sentences on a second chart, for the students to read and tell the meaning of. Finally, the students complete a workbook page independently where they are asked to identify words in sentences that reflect the characteristic studied.

New vocabulary words are then introduced by reading sentences on a third, fourth, and fifth chart, that include the new words. Independent practice is provided through a

workbook page containing sentences with missing vocabulary words. Students choose the correct word and fill in the blank.

Days Three and Four: Reading the Selection

Have the children prepare for reading the selection by previewing the pictures, discussing what they already know about the topic, and predicting what they think might happen in the story. Have students read silently the first 5-6 pages of the story. Then return to each page and ask comprehension questions that can be answered after having read that page. Have the students read the next 5-6 pages, following the same procedures, and finally the last few pages.

Day Five: Comprehension Check and Review

Have students read the questions on the "Comprehension Check" page following the story, and then answer them orally with discussion as needed. Have students write the answer to comprehension questions related to the story on a workbook page. Discuss and correct answers.

Review the skill taught in a previous lesson by using the accompanying chart and workbook page.

## VITA

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### EDUCATIONAL BACKGROUND

Ph.D. - Curriculum and Instruction (1989)  
Louisiana State University

M.Ed. - Reading (1986)  
Louisiana State University

B.S. - Elementary Education (1971)  
Louisiana State University

### PROFESSIONAL EXPERIENCE

August, 1987 - May, 1989	Graduate Teaching Assistant Louisiana State University Responsibilities: Teaching 3 semesters of undergraduate Language Arts (EDCI 3113). Teaching 1 semester of undergraduate Reading Diagnostic-Prescriptive Instruction (EDCI 3137).
January, 1987 - May, 1989	Graduate Research Assistant Louisiana State University Responsibilities: Assist in research conducted in Emerging Literacy and Early Childhood Education.

August, 1986 - May, 1987	Graduate Teaching Assistant Louisiana State University Responsibilities: Supervising undergraduate field experience students in Reading Instruction in the Elementary School.
August, 1975 - May, 1985	First Grade Teacher Greenbrier Elementary School Baton Rouge, LA
August, 1973 - May, 1974	Second Grade Teacher North Highlands Elementary School Baton Rouge, LA
August, 1971 - May, 1973	Third Grade Teacher Progress Elementary School Baton Rouge, LA

#### PUBLICATIONS

Richgels, D., McGee, L., Hernandez, S., & Williams, N. (1988). Kindergartners' attention to graphic detail in functional print: Letter name knowledge and invented spelling ability. In J. E. Readence & R. S. Baldwin (Eds.), Dialogues in literacy research (pp. 77-84). Chicago, IL: National Reading Conference.

#### PRESENTATIONS

##### National

Burts, D., Hart, C., Charlesworth, R., Hernandez, S., Kirk, L., & Mosley, J. A comparison of the frequencies of stress behaviors observed in kindergarten children in classrooms with developmentally appropriate vs. inappropriate instructional practices. Paper presented at the American Educational Research Association Conference. San Francisco, CA, March, 1989.

Hernandez, S. Emerging ability to think critically: One preschooler's experiences with interactive storybook reading. Paper presented at the National Reading Conference. Tucson, AZ, December, 1988.

Charlesworth, R., Hart, C., Hernandez, S., Mosley, J., Kirk, L., & Burts, D. Do children in classrooms with more inappropriate practices exhibit more frequent stress behaviors than children in classrooms with more appropriate practices? How can these practices and behaviors be measured? Paper presented at a preconference session of the National Association for the Education of Young Children. Anaheim, CA, November, 1988.

McGee, L., Hernandez, S., Richgels, D., & Williams, N. Kindergarten prereaders', novice readers', and expert readers' use of meaning and graphic cues when reading functional print. Paper presented at the American Educational Research Association Conference. New Orleans, LA, April, 1988.

McGee, L., Richgels, D., Hernandez, S., & Williams, N. Kindergartners' attention to graphic detail in functional print. Paper presented at the National Reading Conference. Clearwater Beach, FL, December, 1987.

#### Regional

Hernandez, S. Animals don't wear gwasses: A preschooler talks about meaning. Paper presented at the annual meeting of the Midsouth Educational Research Association. Mobile, AL, November, 1987.

#### PROFESSIONAL AFFILIATIONS

American Educational Research Association  
 Association for Childhood Education International  
 College Reading Association  
 Louisiana Reading Association  
 International Reading Association  
 National Reading Conference  
 National Council of Teachers of English

#### RESEARCH INTERESTS

Emerging Literacy  
 Early Childhood Education  
 Invented Spelling  
 Language Disorders and Reading

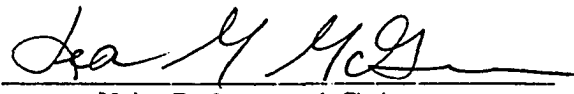
# DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Sue N. Hernandez

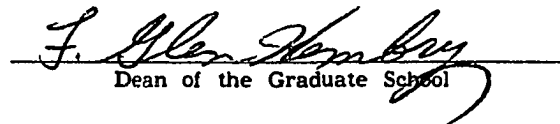
Major Field: Education

Title of Dissertation: EFFECTS OF COMMUNICATIVE READING STRATEGIES ON THE  
LITERACY BEHAVIORS OF THIRD GRADE POOR READERS

Approved:



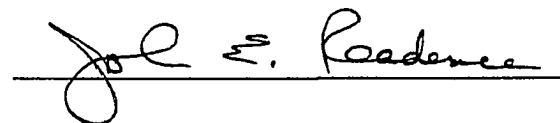
Major Professor and Chairman



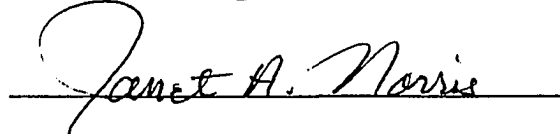
Dean of the Graduate School

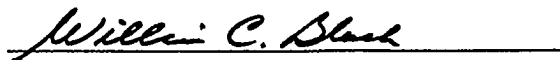
## EXAMINING COMMITTEE:











Date of Examination:

7-24-89